COTTON
SERVING THE
Textile Industries
1939

New Paths to Profit
—*for* Textile Mills

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MAY 12 1939
PERIODICAL

THE plant which operates on low cost has a marked advantage over competition. Low cost is the first path to profit, because every economy is a profit in the making, but these economy-born profits—especially in the Textile Industry—involve a multitude of steps and processes, among which are:—

Equipment that will improve production and increase earning power.

Arrangement of equipment for flexible operation in peak and valley loads.

Power application to achieve efficient and economical use.

Flow of materials and manufacturing process to cut cost.

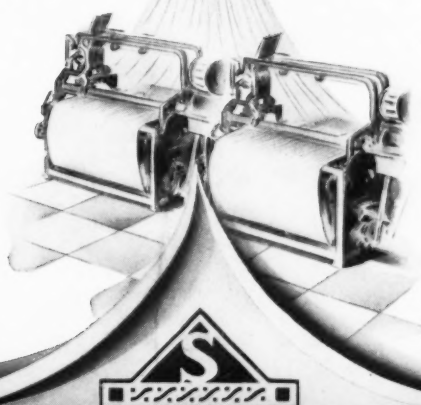
These are important paths to profit which our experience as Engineers can open up or make smoother for manufacturers of textiles.

If this matter of profit through economy is of interest, we shall be glad to discuss the possibilities with you.

J. E. SIRRINE & COMPANY

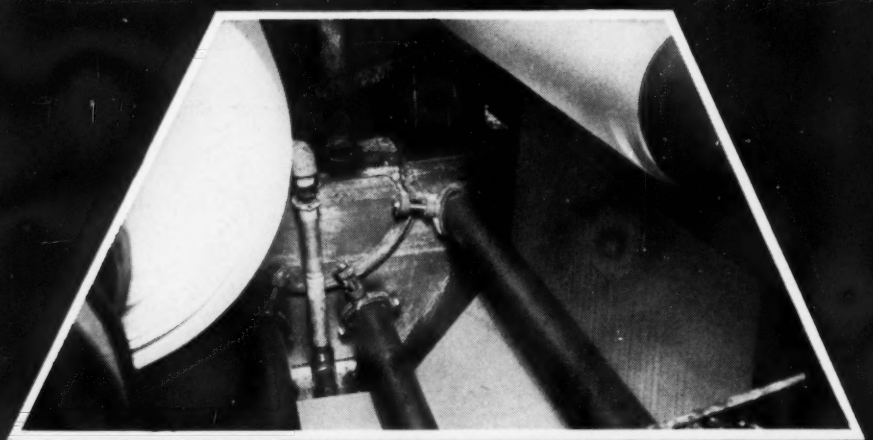
Engineers

Greenville South Carolina



Textile Mills	Paper Mills
Rayon Plants	Power Plants
Tobacco Factories	Reports
Steam Utilization	Surveys
Water Treatment	Appraisals

LININGS *and* ROLLS *and* BEARINGS *that resist* CORROSION *by* SALT



Close-up interior view of one of the dye jigs shown below. Linings, immersion rolls, cast roll brackets, roller bearings, heating coils and other accessories are all made of Monel. As a result, these dye jigs are still in excellent condition after 4 to 8 years' service.

Dye jigs with Monel parts still in excellent condition after 4 to 8 years' service

Note this battery of dye jigs. Into them go cotton, silks and rayons for immersion in vat, direct, sulphur and all acetate colors; for peroxide bleaching, and also for boiling off. • Yet, after periods of service ranging from 4 to 8 years, every one of these dye jigs is still in use and in excellent condition. The reason? Linings, immersion rolls, cast roll brackets, roller bearings, heating coils and accessories are all made of Monel. • Among the corrosives handled by these machines, one is especially harmful. And it's a corrosive that *your* plant is undoubtedly handling, for it is used in many dyeing processes. Its name? *Common salt!* • Salt corrodes even metals that resist most everything else. But Monel is a different matter. You won't find corrosion pitting due to salt in dye-house equipment made of *that* metal. For Monel, highly resistant to corrosion by dyes and dilute bleaches, also withstands the attack of salt. • Proof? For one thing... the widespread use of Monel for salt refinery equipment. For another... the excellent service given by Monel dyeing equipment in hundreds of textile plants. • When ordering new equipment or repairing old, specify Monel... the metal that combats corrosion by salt. Write for further information on this long-lived metal. Address:

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street New York, N. Y.

INCO MONEL

MONEL

"Monel" is a registered trade-mark of The International Nickel Co., Inc., which is applied to a nickel alloy containing approximately two-thirds nickel and one-third copper.

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Entered as second-class matter at the Post Office, Dalton, Ga., under the Act of March 3, 1879.
(Address all communications to COTTON, Grant Bldg., Atlanta, Ga.)

A New Generation
The X Family of Looms
Succeeds the Old Timers
Who Held the Stage for 40 Years

Young X Model graduated from College in 1930

By 1935 he had Completed his Apprenticeship—Proved his Worthiness and Made Good in the Textile field

He was Joined by two Stalwart Brothers ❖ Other Brothers have left the Fitting School this year to take Their Place in the activities of the Family Partnership

X XD XK XL! They are a husky hustling Quartet of Workers
They Are Speedier ❖ They Are More Skillful ❖ They Are Greater Producers than their Oldster Forebears who Ruled the Weaving Field from 1894 to 1935

Tie Up to These Youngsters
The Old Man Has Put it Up to Them
Why Don't You?

Draper Corporation
Atlanta Hopedale Spartanburg

Some TEXTILE applications of ANTI-FRICTION BEARINGS

NEW! for Spindle Lubrication

A scientifically refined oil from the heart of selected crudes, designed to maintain low power consumption over a long period, with freedom from gumming and fogging.

TEXACO SPINDURA OIL AA

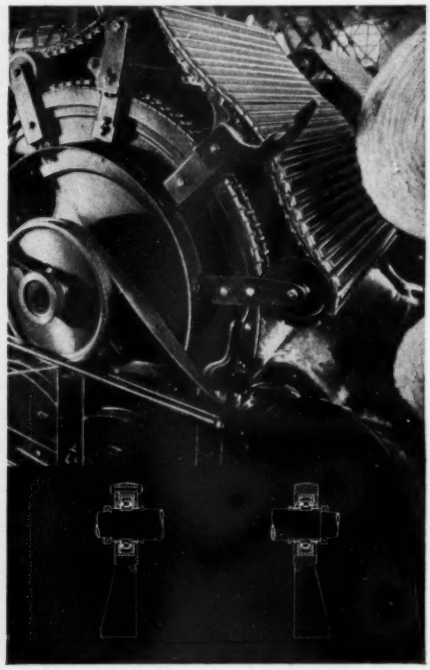
PERFECTED LUBRICATION FOR TEXTILE SPINDLES

●

The March Issue of "Lubrication" magazine is devoted to textile mill lubrication. If you are not receiving "Lubrication" regularly, write The Texas Company. It is free.

Cross-section courtesy The Fafnir Bearing Company

FAFNIR APPLICATION of ball bearings on spinning frame. All Fafnir Bearings are at their best when lubricated with Texaco Starfak Grease.



Cross-section courtesy Norma-Hoffmann Bearings Corp.

NORMA-HOFFMANN APPLICATION of self-aligning roller bearings on card. Texaco Starfak Grease reduces running torque.

THE TEXTILE MACHINE BUILDERS have found that the proper application of ball or roller bearings assures more efficient operation of their machines.

They have also found that these bearings require a lubricant that must resist oxidation, separation, and gum formation even after long periods of service. Such a lubricant is Texaco Starfak Grease. Starfak offers lower starting and running torque, and keeps your bearings at their peak.

Available through 2229 Texaco warehouses, trained engineers offer help in the selection and perfected application of any Texaco Lubricant.

The Texas Company, 135 East 42nd Street, New York City.

Texaco Dealers invite you to tune in The Texaco Star Theatre — a full hour of all-star entertainment — Every Wednesday Night — Columbia Network — 9 E.D.T., 8 E.S.T., 8 C.D.T., 7 C.S.T., 6 M.S.T., 5 P.S.T.

TEXACO

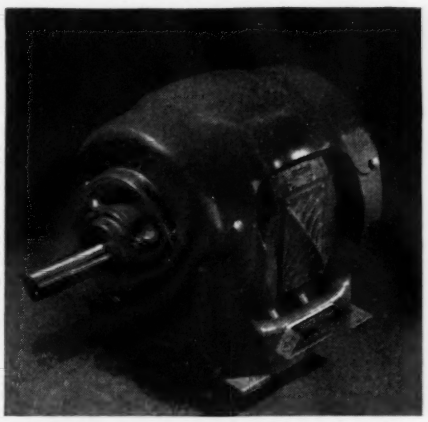
TEXACO STARFAK

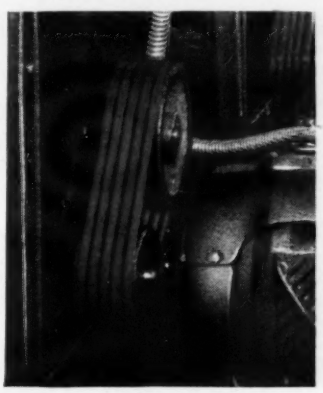
PERFECTED LUBRICATION FOR SMALL, HIGH-SPEED BALL AND ROLLER BEARINGS

ALLIS-CHALMERS UNDIVIDED RESPONSIBILITY PILES UP

BIG SAVINGS FOR THREE MILLS!

AGAIN the Record of Allis-Chalmers Cost-Cutting Textile Equipment Moves Management to Install Quick-Clean Motors, Starters and Texrope Drives. Read How You Can Profit From Allis-Chalmers Undivided Responsibility!





ALLIS-CHALMERS QUICK-CLEAN Motors, Texrope Drives, and Starters actually save big money every day for this South Carolina Mill. Quick-Clean Motors beat lint and fly that clog ordinary motors. Patented construction ejects all foreign material . . . no frequent shutdowns to clean motors.

Texrope Drives don't slip, jerk, or snap fragile thread on spinning frames, and Allis-Chalmers Starters are equipped with the famous "QUICK-QUENCH" Ruptors that give you more breaks because contact deterioration is cut to a minimum.

It means something when the management of three big textile mills places an order for 58 Quick-Clean Motors, Starters, and Texrope Drives!

At the Spartan, Gaffney, and Startex Mills in South Carolina, now going through a modernization program, this decision was based on the performance record previously made by their Allis-Chalmers textile mill equipment. Their own production figures proved that this equipment had cut operating costs to the bone.

What's more—Allis-Chalmers experience in working with the textile industry, plus Allis-Chalmers undivided responsibility for motor, control and drive were both deciding factors in placing this additional order.

With this new equipment, these mills will have 100% Allis-Chalmers Motors, Drives, and Controls . . . and be getting highest performance at lowest cost!

Let Allis-Chalmers Help You!

That's the kind of service that's being duplicated by hundreds of mills today, using Allis-Chalmers equipment. And that's the kind of a money-saving service you can get!

There's an engineer, trained in textile mill production problems, in the Allis-Chalmers district office near you. Call him today! He'll be glad to work in cooperation with your engineering department . . . show you how to get greater production at lower operating costs!

1071

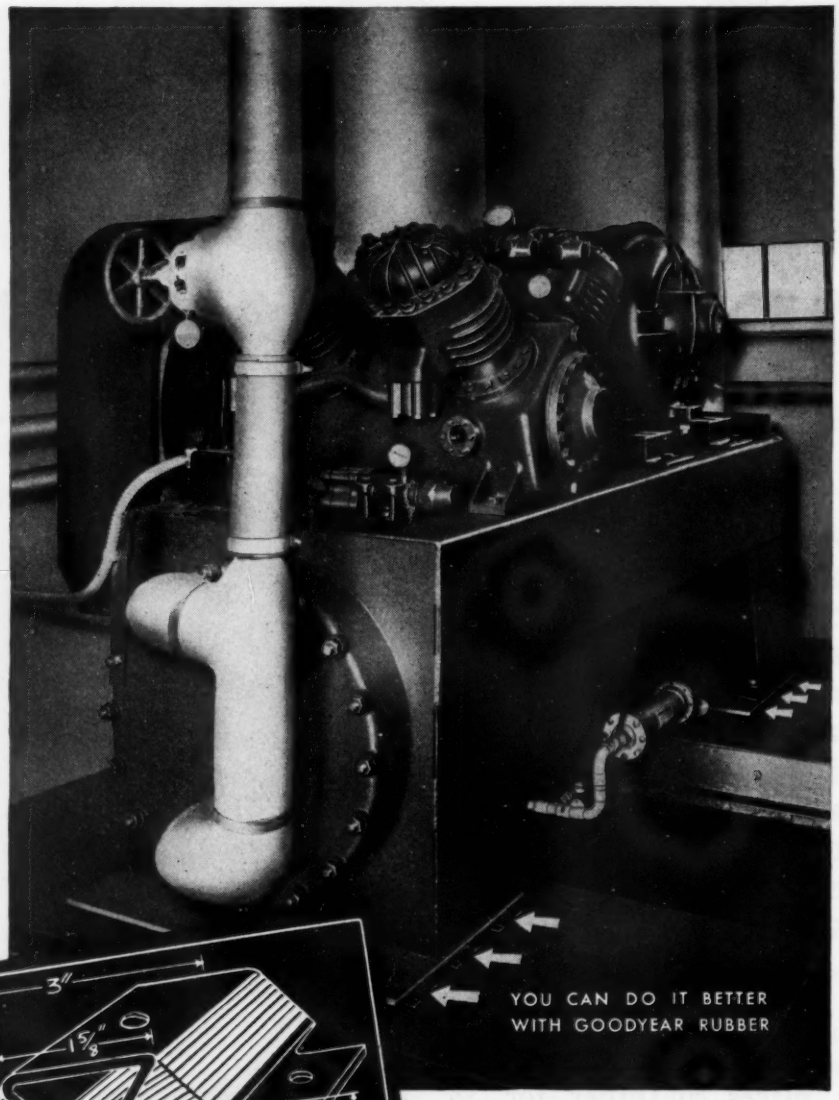
PRODUCTS ENGINEERED TO PAY FOR THEMSELVES

Electrical Equipment • Power Transmission Equipment • Steam and Hydraulic Turbines • Blowers and Compressors • Engines and Condensers • Centrifugal Pumps • Flour and Cereal Mill Equipment • Boiler Feedwater Treatment • Saw Mill and Timber Preserving Machinery • Crushing, Cement, and Mining Machinery • Power Farming Machinery • Industrial Tractors and Road Machinery

ALLIS-CHALMERS

MILWAUKEE · WISCONSIN

HERE'S A Silent Cure FOR ALL HIGH-SPEED MACHINES WITH Vibration Jitters



Air conditioner mounted on Goodyear rubber vibration dampener in Memphis store.

THE floor-shaking vibration, the rhythmic nerve-shattering 'ammer, 'ammer, 'ammer characteristic, of so many high-speed machines has met its match in Goodyear rubber. Today air conditioners, compressors, ventilating fans, generators and other jittery equipment are being cushioned to tiptoe silence by an ingenious Goodyear development—the Universal Vibration Dampener.

The amazing effectiveness of this rubber cushion is best illustrated by typical examples like these:

A printing press recently installed in a large Ohio hotel to print menus and programs caused so much vibration throughout the building that guests were seriously disturbed. On recommendation of the G.T.M.—Goodyear Technical Man—the press was mounted on Goodyear rubber dampeners. It is now inaudible, even in adjacent rooms.

In a mid-western office building there were many complaints about the noise of an automatic numbering machine used by one of the tenants. When it was cushioned on Goodyear rubber, people on the floor below thought their noisy neighbors had moved, the silence was so complete!

In mills and factories the dampener not only silences noise—it does away with excess machine-motion, permitting cleaner, quicker work on high-speed operations.

Elimination of noise and vibration is only one of the many modern industrial problems being solved by applications of rubber-to-metal. Abrasion, corrosion and excessive impact are others. Let the G.T.M. show you how you can do it better with Goodyear rubber. To have him call, write Goodyear, Akron, Ohio, or Los Angeles, California — or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

THE GREATEST NAME IN RUBBER

GOODYEAR

A Centennial Product of The Greatest Name in Rubber

"WE ARE RUNNING SIXTY THOUSAND POUNDS OF COTTON THRU OUR SUPER-DRAFT ROVING EVERY DAY.

"WE DID RIGHT IN PUTTING IT IN.

"WE DON'T KNOW WHAT WE WOULD HAVE DONE WITHOUT IT."

(MILL AGENT)*

***P. S.**

He was thinking of the reduction in the cost for producing his roving.

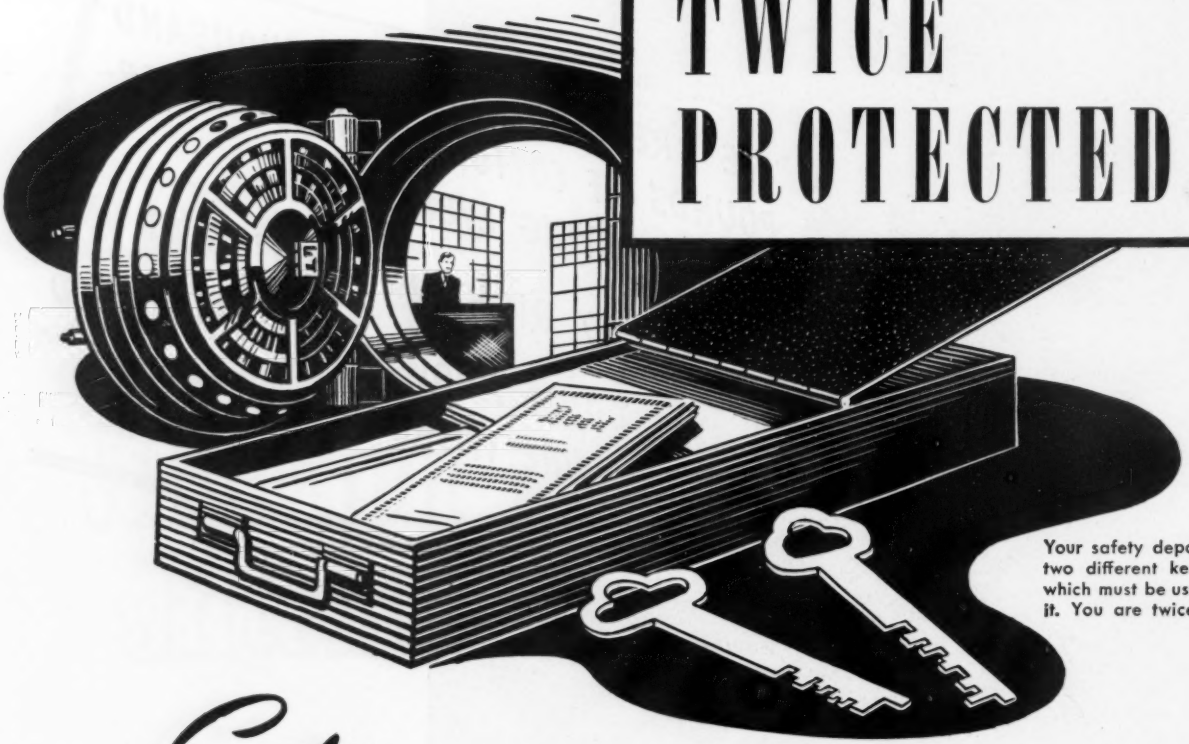
THE only single process roving frame that will satisfactorily control mixed fibres. It produces a more even roving than any other system, and can be run on higher drafts.

WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS, U. S. A.

CHARLOTTE, N. C. ATLANTA, GA.

TWICE PROTECTED...



Your safety deposit box has two different keys, both of which must be used to unlock it. You are twice protected.

FOR *Extra* SAFETY, THIS CAUSTIC SODA IS *Twice* PURIFIED

Electrolytic caustic soda in an extremely pure form is now available for the most exacting needs of the textile industry. It is low in salt content, low in carbonates, and extremely low in iron.

This is made possible by a double purification, by an additional manufacturing process developed by this Company. The result is that impurities are reduced to so low a point that you can depend fully on this caustic soda for use in your processes.

It is supplied in aqueous solution in 8,000-gallon tank cars as well as in solid, flake, or ground form in drums. Our technical staff will gladly help with all questions of pumping, piping, and dissolving. Why not write us today? Pennsylvania Salt Manufacturing Company, Widener Bldg., Philadelphia, Pa. —New York • Chicago • St. Louis • Pittsburgh • Tacoma • Wyandotte.

Other Pennsylvania Salt Products for the Textile Industry

Soda Ash
Sulphuric Acid
Hydrochloric Acid
Anhydrous and Aqua Ammonia
Sodium Hypochlorite
Carbon Bisulphide
Ammonium Persulphate

● We also produce high-grade electrolytic Hydrogen Peroxide, 100 volume, for use as a fool-proof bleaching agent. It is supplied in glass carboys, and aluminum drums. Stocks are conveniently located, and our service department is skilled in textile plant operation—ready to help with any difficult problems.

PENNSYLVANIA SALT MANUFACTURING COMPANY

Chemicals

The BUILDER says:

"To give our owners the best materials available, we always use MFMA Northern Hard Maple for floors where Maple is specified."

C. M. GUEST & SONS
Greensboro, N. C.
(Over 40 years of Successful Building Construction)

The ENGINEER says:

"Our experience over 25 years has been that only HARD MAPLE flooring will stand the floor service required in a textile plant. Northern Hard Maple was specified for the Grabur Silk Mill for this reason."

H. V. BIBERSTEIN
Charlotte, N. C.
Mill Architect and Engineer

Above—"Interior of the Grabur Silk Mill, Graham, N. C., where floors of MFMA Maple are giving excellent service."

"A Floor That Makes EVERYBODY Happy"

There's flooring amity ahead where **MFMA** Northern Hard Maple is laid — plants, schools, stores, homes, etc. No questions later of the architect's judgment—no "make this good and that" for the builder—each year merely adds to the owner's satisfaction.

For **MFMA** Maple checks on *all* counts for mills. So tough-fibred, tight-grained, it is remarkably resistant to abrasion — will not sliver, splinter, or develop ridges, even under the wear of heavy steel-castered mill trucks. Its lasting smoothness speeds up traffic, creates no dust to injure machinery, and, properly finished, requires brushing alone to clean. It simplifies alterations, machinery shifting and renewal.

Employees, too, find Hard Maple ideal. Light-reflecting and sound-absorbing — warm, dry and resilient—clean and sanitary. It slows up fatigue, protects health, pleases the eye—in every way contributes to workers' comfort, efficiency, good will.

Everybody's happy when you lay **MFMA** Maple — architect, builder, employee, and owner. You can make sure your flooring is genuine Northern Hard (**MFMA**) Maple, under Association grade supervision and guarantee. This is simply done, by specifying **MFMA*** Maple and looking for this association trademark on the flooring you receive.

• • •

See our catalog data in Sweet's, Sec. 11/77. Write for folder describing heavy-duty finishes for old or new floors, which seal Maple's surface and further reduce cleaning costs.

To be sure of Association guaranteed grading, specify and look for the **MFMA trademark (indented and stamped). The following manufacturers are licensed to use it:*

•

Beck, August C. Co., Milwaukee, Wis.
Brown Dimension Co., Manistique, Mich.
Bruce, E. L. Co., Memphis, Tenn. (Mill at Reed City, Mich.)
Connor Lumber & Land Co., Laona, Wis. (Sales Office, Marshfield, Wis.)
Farrin Lumber Co., M. B., Cincinnati, O.
Holt Hardwood Co., Oconto, Wis.
Kerry & Hanson Flooring Co., Grayling, Mich.
Kneeland-Bigelow Co., Bay City, Mich.
North Branch Flooring Co., Chicago, Ill.
Oval Wood Dish Corp., Tupper Lake, N. Y
Robbins Flooring Co., Rhinelander, Wis.
Stephenson Company, I., Wells, Mich.
Wells, J.W. Lumber Co., Menominee, Mich.
Wisconsin Land & Lbr. Co., Hermansville, Mich.
Yawkey-Bissell Lumber Co., White Lake, Wis.

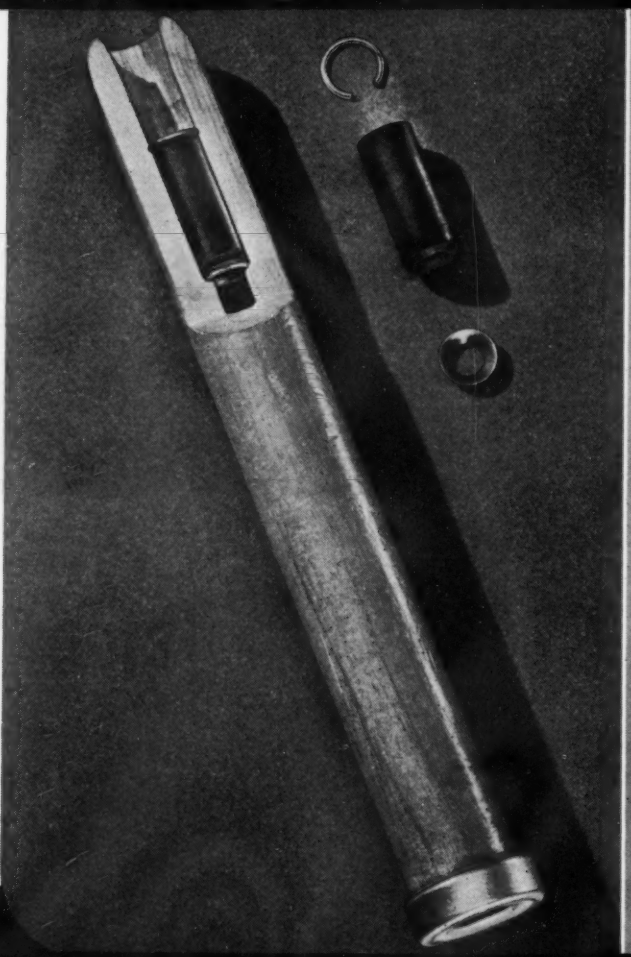
Floor with
MFMA Maple

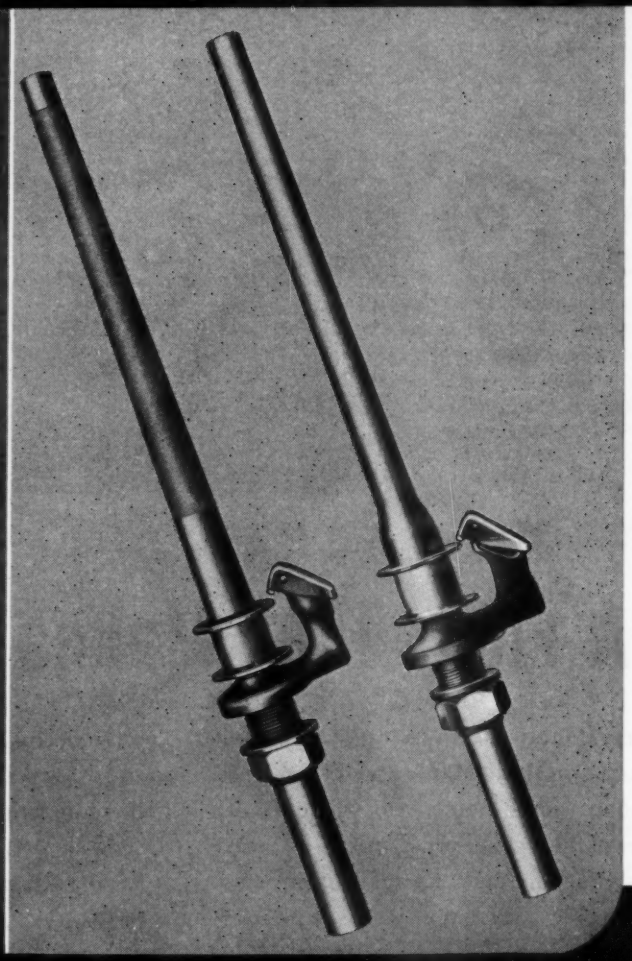
NORTHERN HARD

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1794 McCormick Building, Chicago, Illinois

FOR BETTER RESULTS in the SPINNING ROOM

Your Choice of Two Developments in Spindle and Bobbin Design to operate on the Modern Spinning Frame.





the Cushioned Bearing
FOR HARDWOOD WARP *Bobbins*
eliminates vibration — prevents wear at the upper spindle bearing — stops slipping.

the Sleeve Spindle
FOR CARRYING HARD FIBRE OR IMPREGNATED PAPER TUBES.

WITH THE ADVENT of higher spindle speeds—longer traverses—larger rings and increased bobbin capacity came faults which seriously affected maintenance and production. To correct these faults we have designed the *Cushioned Bearing Bobbin* and *Sleeve Spindle* to carry large packages at high speeds efficiently. **A BULLETIN** with complete facts and details is now ready — write for your copy.

SACO-LOWELL SHOPS 60 BATTERYMARCH STREET · BOSTON · MASS.

VITRITEX FINISH *for* SPINNING RINGS

An Exclusive Production
of the

PAWTUCKET
SPINNING RING
COMPANY

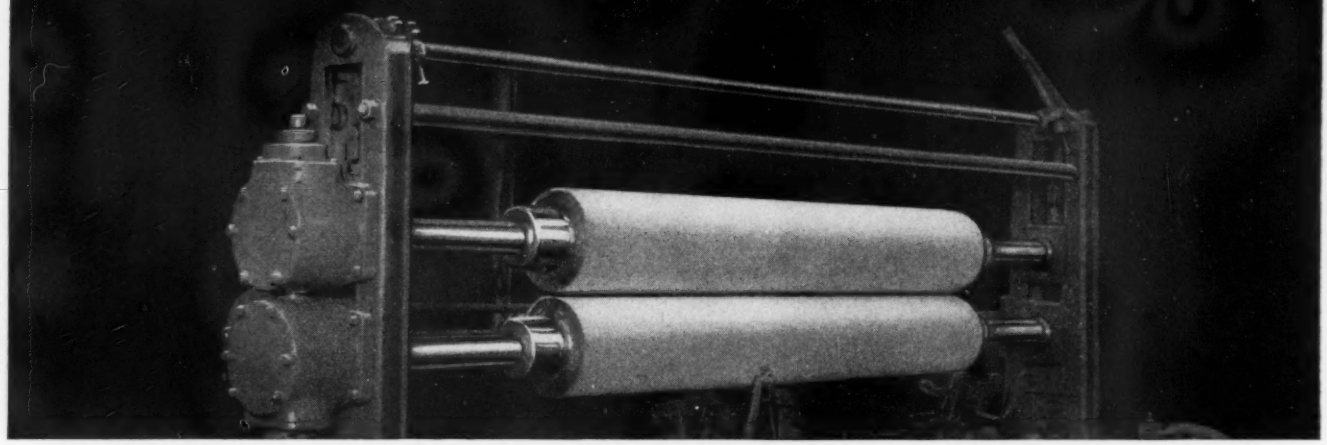
(*A Subsidiary of* SACO-LOWELL SHOPS)

Has these 7 *Advantages:*

1. Adaptable for cotton or rayon.
2. Requires no prolonged starting-up period.
3. Has a surface, highly resistant to tarnish.
4. The brilliant surface is produced without sacrificing the depth of hardened case.
5. The Vitritex Finish is carried to the underside of the flange and corners of the web.
6. The smooth, glasslike surface has a desirable effect on traveler consumption, a factor of importance in any spinning room.
7. Uniform surfaces in all rings produce equality in tension and balloon at every spindle. Therefore, bobbin diameters are identical.

PAWTUCKET SPINNING RING COMPANY, *Central Falls, R. I.*

Finish with a *Profit* through...

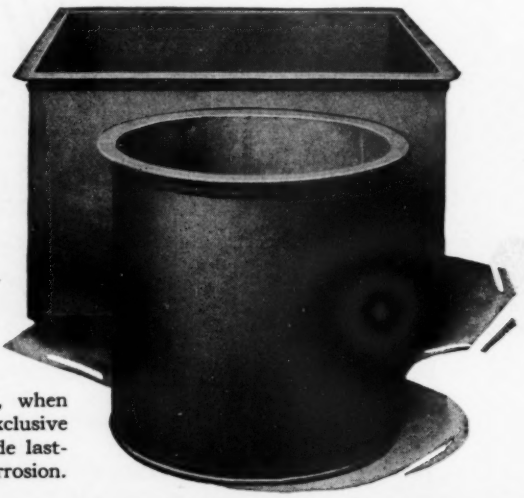


Condor RUBBER COVERED ROLLS

CONDOR RUBBER COVERED ROLLS have been making profit records in textile finishing on many different machines by maintaining quality of product, eliminating spoilage and reducing costly roll repairs and replacements.

Made in a full range of compositions and accurate finishes to fill every need of the textile industry, Condor Rubber Covered Rolls are not affected by chemicals and pressure, do not oxidize, surface-harden or change density either in use or in storage, but remain constantly uniform to deliver time-saving and money-saving service.

For better textile finishes at higher speeds, get Condor Rubber Covered Rolls . . . and you will finish with a profit. Write for further information.

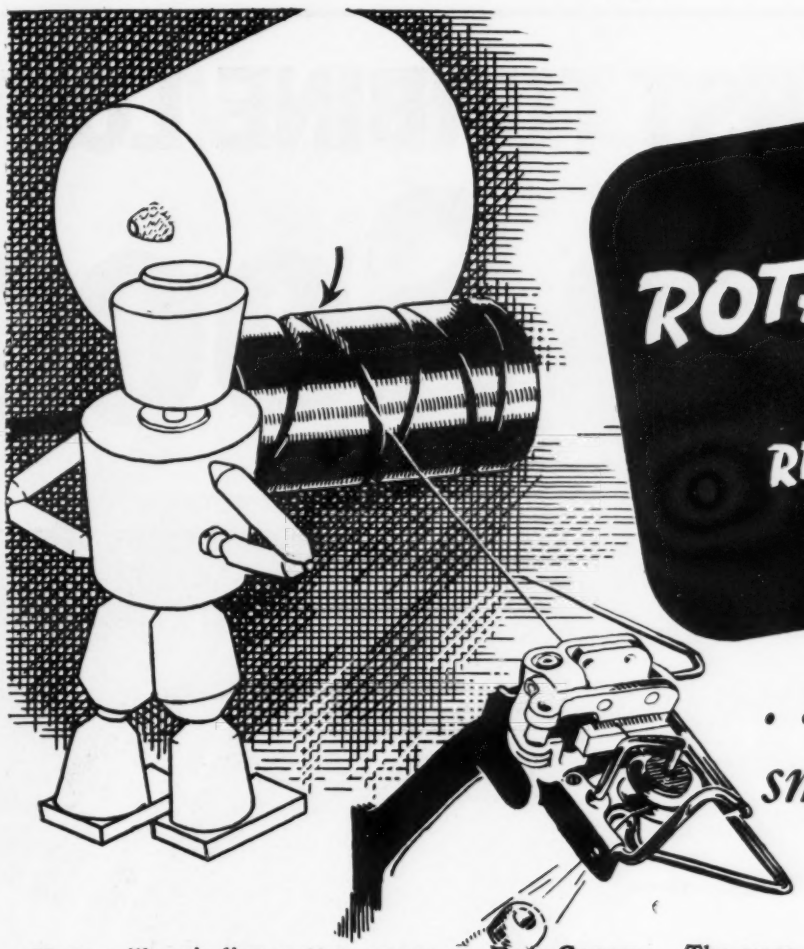


Condor PRODUCTS

Cone Belt	Suction Hose
Transmission Belt	Water Hose
V-Belt	Molded Rubber Goods
Air Hose	Oilless Bearings
Acid Hose	Hard Rubber Pot Eyes
Fire Hose	Rubber Lined Tanks
Steam Hose	Rubber Covered Rolls

Let Manhattan's engineers make all your textile finishing equipment corrosion-proof. They have developed special acid-resisting rubber compounds which, when applied to metal by the exclusive Manhattan method, provide lasting protection against corrosion.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.
EXECUTIVE OFFICES AND FACTORIES
66 Townsend St., Passaic, N. J.



the ROTATING TRAVERSE REVOLVES WITH THE YARN

. . leaving it smooth and round

Yarn mills winding cotton yarns on Roto-Coners say they believe they have never before produced such high-quality packages . . . and reports from knitters back up their conviction.

The patented Rotating Traverse revolves in the same direction the yarn is traveling, and there is none of the strain or chafing which occurs with reciprocating guides. Yarn going into Roto-Cones is smooth and round, because the "whiskers" are a part of the yarn.

Elimination of slip drums means that the cones produced are free from roll-cut yarn; there is no nipping of the yarn between slip and driving drums, no yarn cut by sharp metallic burrs on the driving drum.

CLEANER YARN The Roto-Coner's higher winding speed causes a faster ballooning of the yarn between bobbin and tension bracket. The centrifugal force throws out trash, leaf and dirt, which falls to the floor. The yarn then passes through efficient slub catchers which remove imperfections.

BETTER DYE PENETRATION Dyers have been pleased with the results obtained with packages wound on the Roto-Coner. Density is the same from one end of the package to the other; hard ends are prevented by the sharp reversal of the yarn at the ends of the rotating traverse, preventing any "dwell" of the yarn. Density is also the same from inside diameter to outside diameter; the package is positioned so that pressure is not added to the inside layers as the package diameter increases. More even penetration of the dye is the result.

FOUR-POUND WARPING CONE Weaving mills operating the Roto-Coner obtain many advantages from the large four-pound cone of inspected yarn. The continuous supply saves lost time at the warper, and the improved quality of the yarn results in further savings in the weave room.

Bulletin 144 for Yarn Mills and Knitters has been revised to include recent developments. Bulletin 244 is specially prepared for Weaving Mills. Address P. O. Box 1605, Providence, R. I.

ROTO-CONES FOR BETTER KNITTING — ROTO-CONERS FOR BETTER WINDING

ROTO-CONER

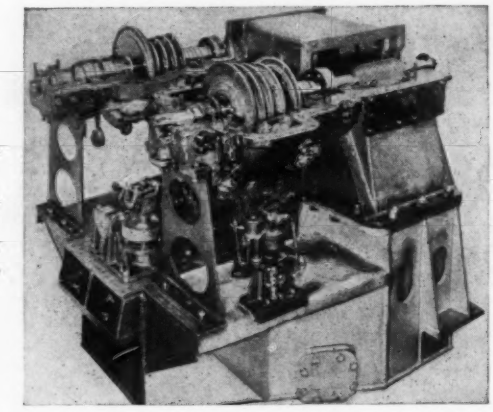
LEESONA

UNIVERSAL WINDING COMPANY P.O. BOX 1605 **PROVIDENCE, R. I.**

BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

U.S.A.'s FIRST TURBINE LOCO

"Call in Soco



The Turbine for Union Pacific's New Steam-Electric Locomotive

THE TURBINE ABOVE powers one unit of Union Pacific's new 5000-h.p. locomotive.

This turbine develops 2500-h.p. Turns up 12,000 r.p.m. Uses steam at 1500 lbs. pressure.

Problem: The oil must be light enough to lubricate the turbine...yet heavy enough to protect precision reduction gears.

No existing oil could do that job!

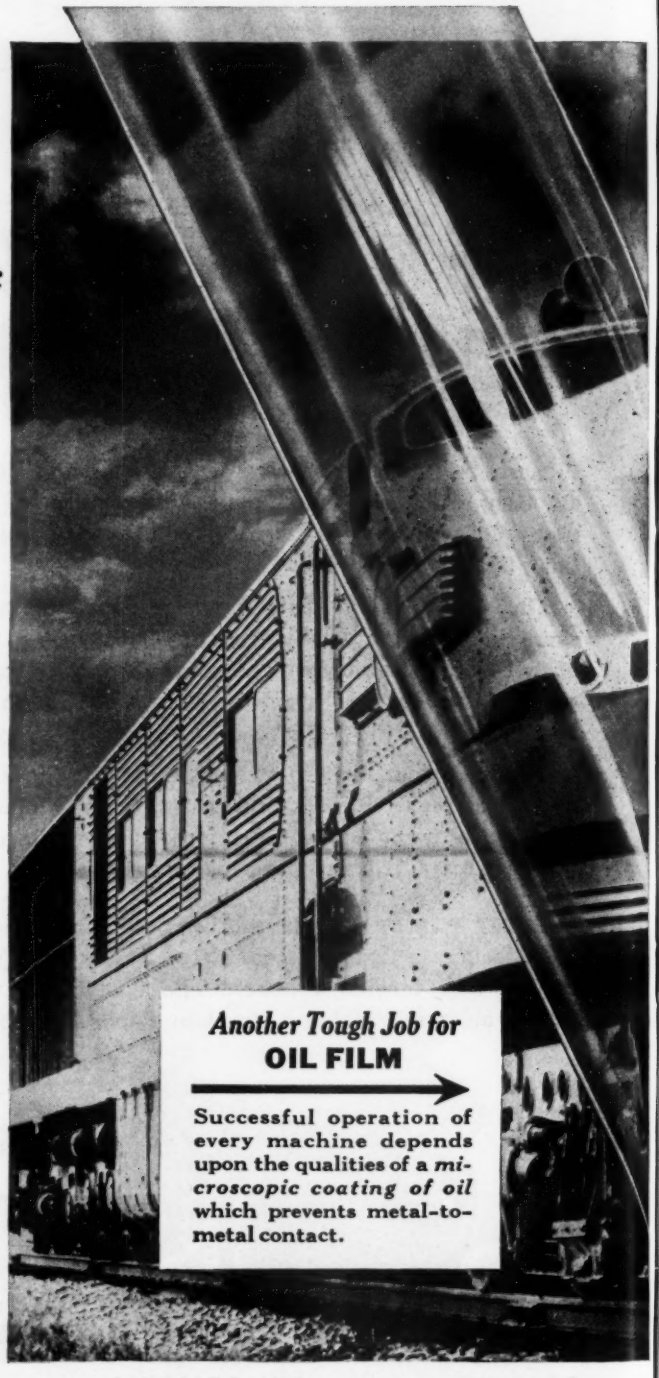
Because of their long, successful experience in turbine lubrication, Socony-Vacuum engineers were called in. Working with the turbine builder's staff they developed a new oil...tested it severely.

It was the right oil.

This was typical. The makers of Gargoyle Lubricants were *first* to supply correct oils for the steam engine, the steam turbine, the Diesel and textile's high-speed spindles.

Whenever Industry moves ahead, Socony-Vacuum keeps step with "Correct Lubrication."

"Call in Socony-Vacuum"—today—and take advantage of 73 years' lubricating experience.

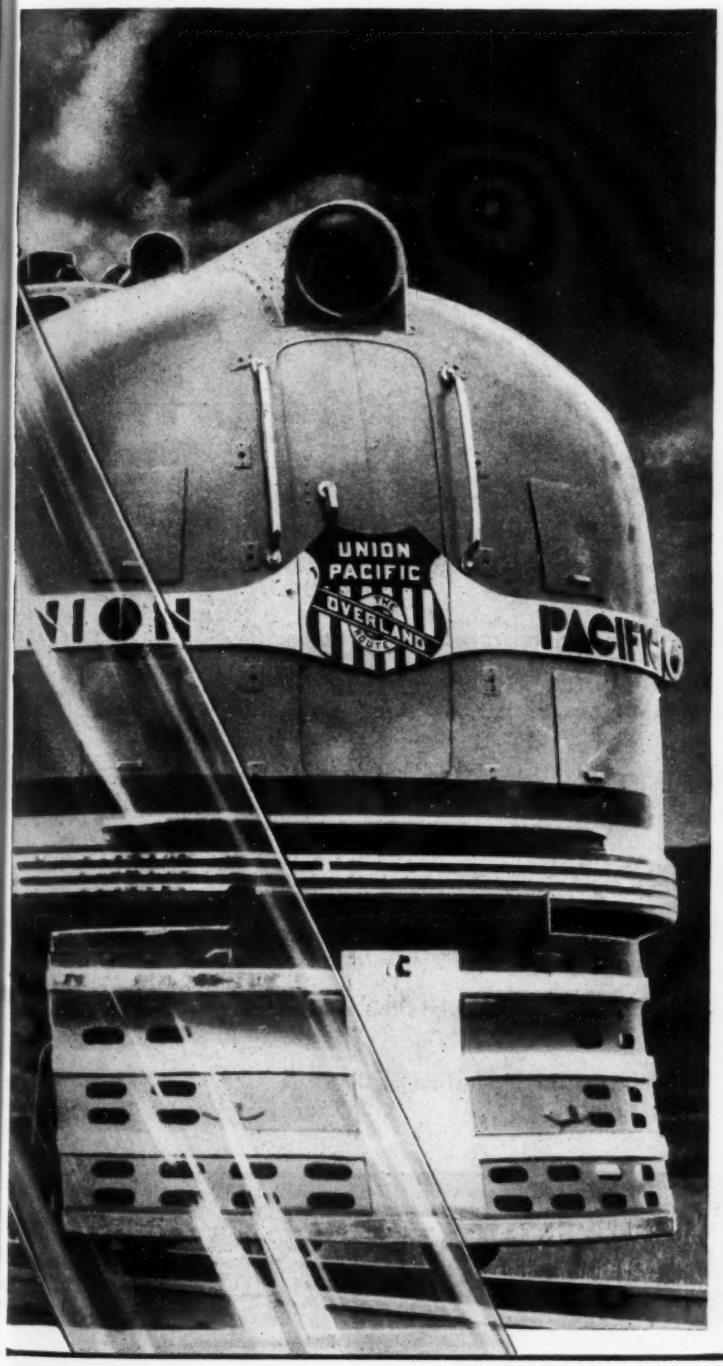


Another Tough Job for **OIL FILM**

Successful operation of every machine depends upon the qualities of a *microscopic coating of oil* which prevents metal-to-metal contact.

MOTIVE PROVED IT PAYS TO_

ny-Vacuum!"



SOCONY-VACUUM

Industrial Service and Lubricants Help to Lower Costs by

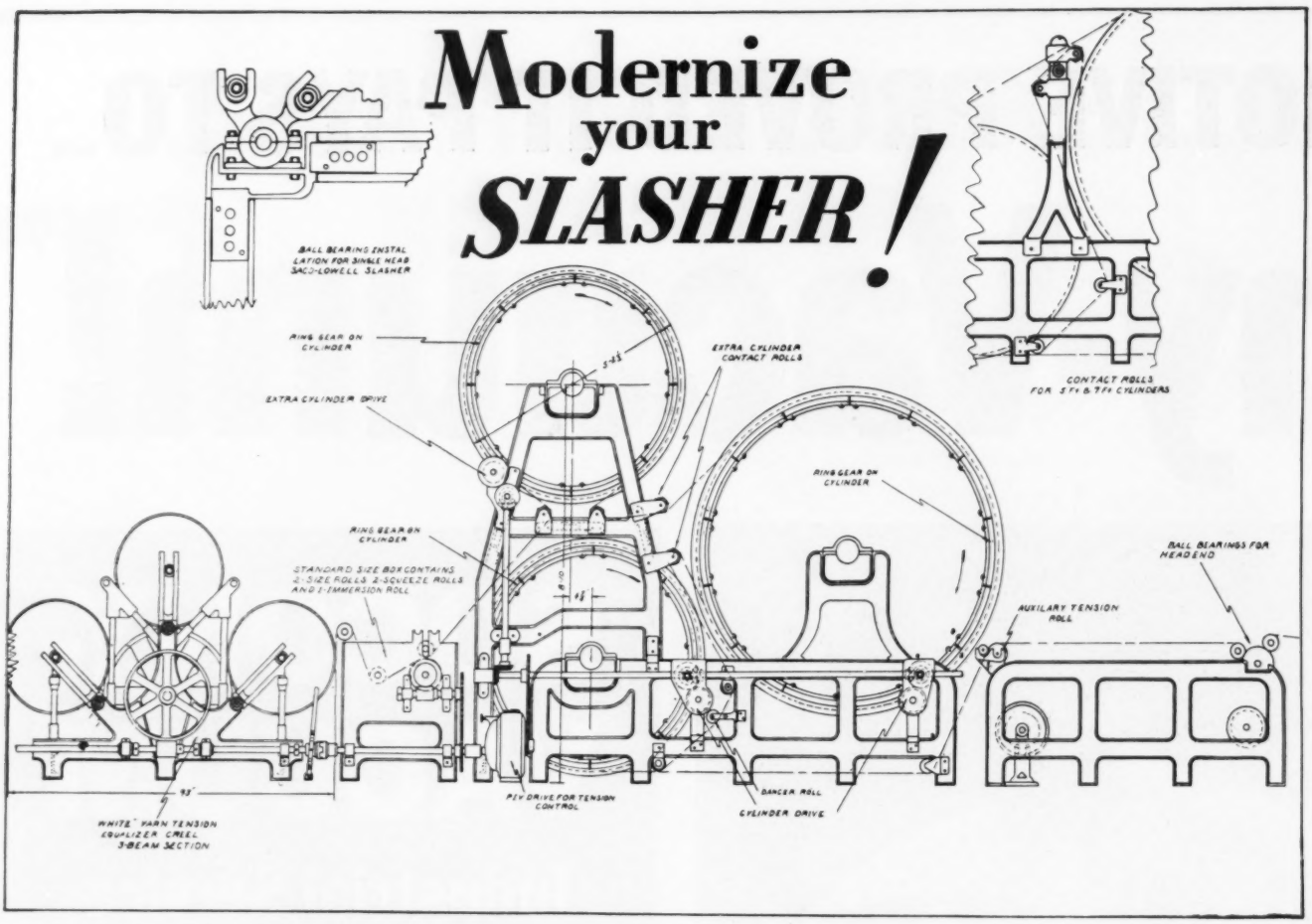
Correct Lubrication

GARGOYLE Mobiloil Lubricants

SOCONY-VACUUM OIL CO., INC.

Standard Oil of New York Division · White Star Division
Lubrite Division · Magnolia Petroleum Company
Chicago Division · White Eagle Division · Wadhams Division
General Petroleum Corporation of California

Modernize your *SLASHER!*


BALL BEARING INSTALLATION FOR SINGLE HEAD SACO-LOWELL SLASHER
RING GEAR ON CYLINDER
EXTRA CYLINDER DRIVE
EXTRA CYLINDER CONTACT ROLLS
CONTACT ROLLS FOR 5 Fr. & 7 Fr. CYLINDERS
RING GEAR ON CYLINDER
RING GEAR ON CYLINDER
STANDARD SIZE BOX CONTAINS 2-SIZE ROLLS 2-SQUEEZE ROLLS AND 2-IMMERSION ROLL
BALL BEARINGS FOR HEADEND
AUXILARY TENSION ROLL
"WHITE" YARN TENSION EQUALIZER CREEL 3-BEAM SECTION
REV. DRIVE FOR TENSION CONTROL
DANCER ROLL
CYLINDER DRIVE

...*With* WEST POINT *Products*

EXTRA CYLINDER ASSEMBLY to increase drying surface and drying speeds.

POSITIVE GEAR DRIVE to turn the drying cylinders without straining the yarn.

CONTACT ROLLS to obtain the maximum wrap of the yarn around the drying cylinders.

BALL BEARING MOUNTINGS for cylinder and delivery roll to decrease power requirements and provide smooth operation.

TENSION CONTROLS

"WHITE" YARN TENSION EQUALIZING CREEL, a positively driven creel that delivers yarn free from stretch and strain.

POSITIVE, INFINITELY VARIABLE DRIVE to regulate the tension throughout the slashing process.

AUXILIARY TENSION ROLL to obtain correct separation of the ends at leese rods.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

PRODUCING COLORS IS ONLY PART OF OUR JOB!

Calco's Technical Service Means Skilled Help for the Asking

Producing colors for the Textile Industry is a full time job in more ways than one. A sound working knowledge of textile problems is as important as our knowledge of chemicals and dyes.

For instance, our Technical Service Men have helped dozens of dye houses simplify and improve their dyeing methods on the side of economy and improved quality. In many other cases we have helped match wanted shades and at the same time obtain better, faster colors as well.

Whether or not you now use Calco products, the assistance of our Technical Service Men is available to you. You'll find them good citizens to work with—and there may be some phase of your use of color where the "outside viewpoint" can help you lower costs, improve your product—or both. Write or phone our Main Office or nearest Branch Office, and one of our Technical Service Men will be sent to work out your problem with you without cost or obligation.

For Color in Textiles it's

Calco

THE CALCO CHEMICAL COMPANY, INC.
BOUND BROOK NEW JERSEY

A Division of American Cyanamid Co. • Boston • Philadelphia
Providence • New York • Charlotte • Chicago • Paterson

"What's the Big Idea?"

"Mr. Ingleby said he wouldn't trust his new set of clubs in anything but a DIAMOND FIBRE ROVING CAN"

The "big boss" is mighty particular about his golf paraphernalia, all right—almost as finicky as he is about the materials those cans have been handling at his plant. He simply won't takes chances either in the factory or on the links . . . that's why he picked Diamond Fibre Cans for both jobs.

For Ingleby, like so many other "big bosses", is thoroughly sold on the unfailing protection these Seamless Roving Cans give *whatever* they hold. He's watched their specially treated, porcelain-smooth surface come through months of rough handling without cracking, chipping, or softening. He's found that their polished top rims give a double guarantee of trouble-free passage of materials; that their scientific design entirely eliminates top sway; that their rigid construction and fool-proof kicking bands assure extra long life.

If you've a material handling problem that gets in your hair and plays havoc with the company's bank balance, give Ingleby's pet cans a try . . . Send for a Diamond Fibre Catalogue today!

WRITE FOR CATALOG HW9

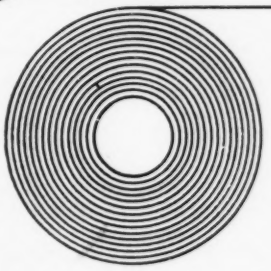
Continental Diamond Fibre Company

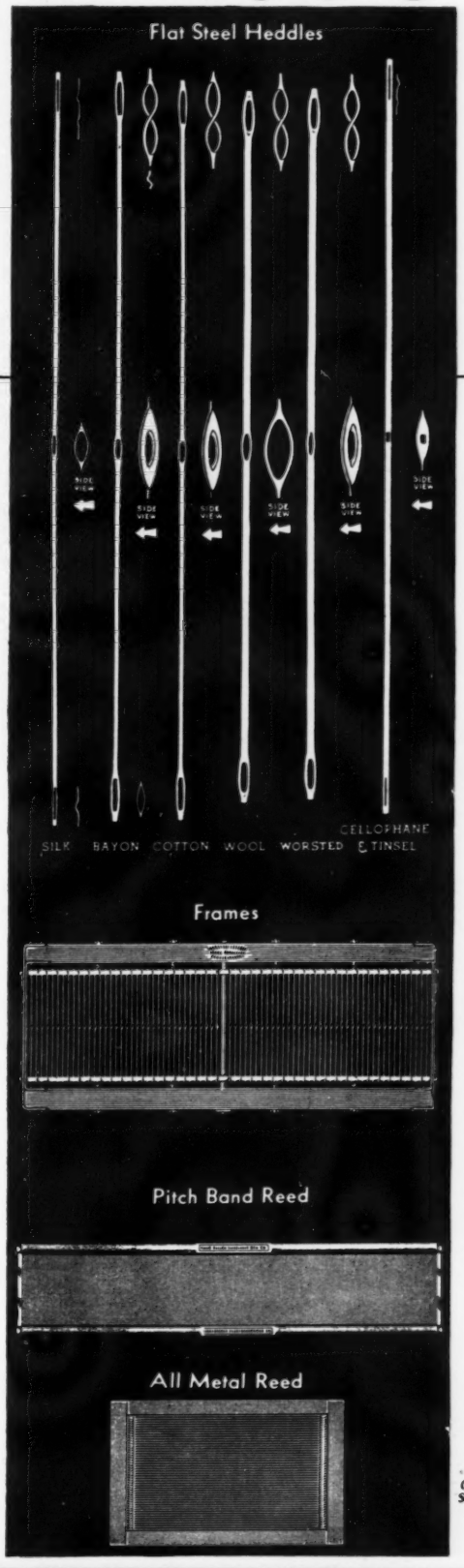
Newark, Delaware

SALES OFFICES IN PRINCIPAL CITIES

PROFIT ASSURANCE

Between the Loom Beam





and

Cloth Roll-

The finest quality warp yarn in the world is brought to naught if it must pass thru inferior loom harness equipment. It is this vital spot that tells the tale—whether production will be top quality or spotted with "seconds."

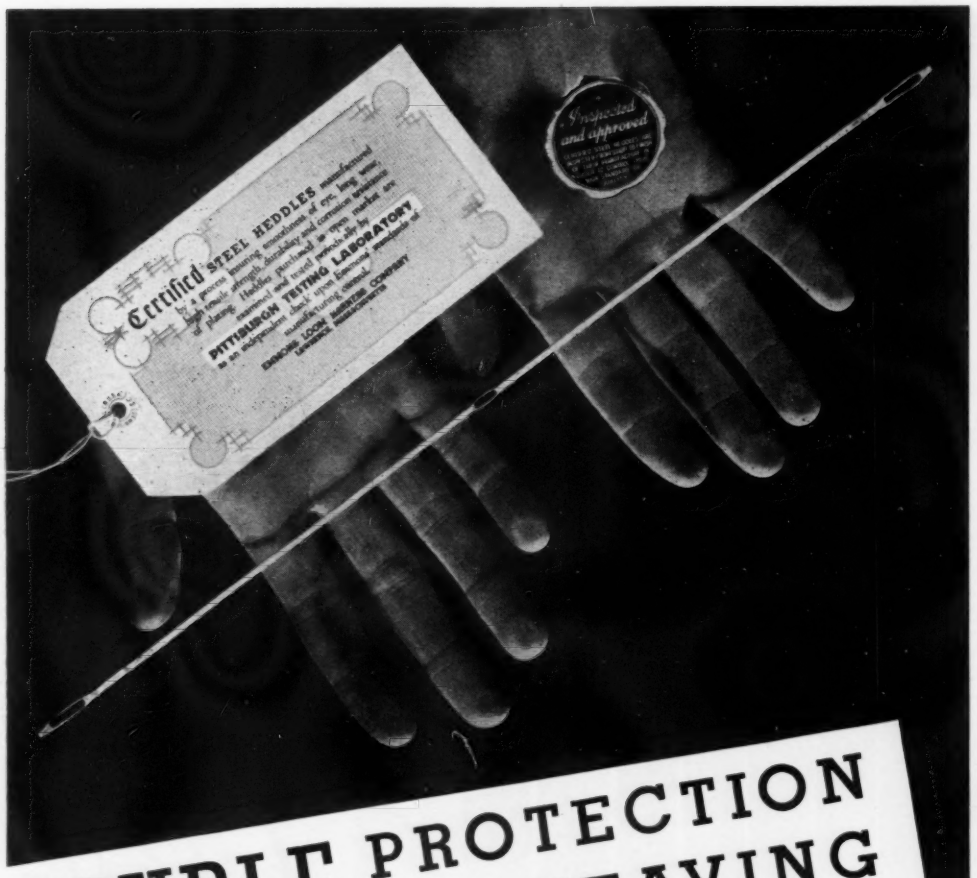
It *costs no more* to be SURE than UNCERTAIN — so why take such a profitless chance? Stehedco Quality Loom Harness Equipment lasts so much longer, that its slightly higher investment is returned many fold during its life. Its trouble-free performance, which results in an increased price being realized from the higher quality fabrics produced, is *clear profit.*

Let one of our field representatives tell you about Stehedco's actual service records—write today—there will be no obligation.

Steel Heddle Mfg. Co.
STEHEDCO HEDDLES REEDS FRAMES AND HARNESS ACCESSORIES
2100 W. Allegheny Ave., Philadelphia, Pa.
BRANCH OFFICES ALL OVER THE WORLD

QUALITY LOOM HARNESS EQUIPMENT

Stehedco



DOUBLE PROTECTION *for* WEAVING

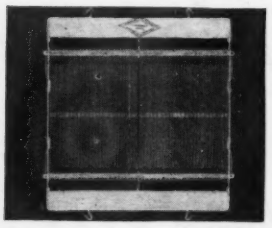
When You Buy "CERTIFIED" Steel Heddles

We are an old company with young ideas. That's why Emmon's "Certified" Steel Heddles are *independently* tested by the Pittsburgh Testing Laboratory . . . and *double-checked* by our own inspection staff. It's our way of doubly insuring the quality you pay for when you buy steel heddles. You get *longer* heddle life, *smoother* weaving — because we *double check* that for you. The best mills buy "Certified."

Stocks in Lawrence, Massachusetts, and Charlotte, North Carolina. Write, telephone, or wire your order. Be sure to get the heddles with the "Certified" tag and the Inspected & Approved Seal. Swift service on this — and all Emmons quality products.

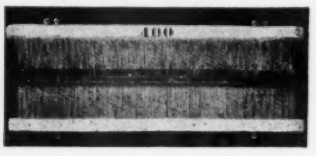
See column at right. Ask for new and interesting folder "Judging Emmons Reeds."

THE WEAVER'S CORNER



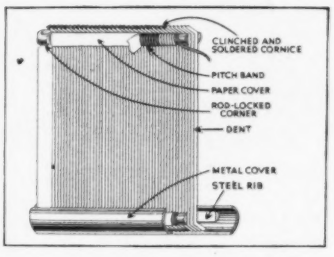
SUPERIOR HEDDLE FRAMES

Only selected lumber and the finest rustproof hardware are used in manufacturing this Emmons product. For best weaving results, combine Emmons "Certified" heddles — and frames. Ruggedly built to resist vibration — humidity — and wear.



CHAFELESS CORD

The cotton harness leader. 5 coats of special varnish, plus Emmons special baking process give it unequalled smoothness, extraordinarily long life. Long staple cotton used. Laboratory-type varnish cut with pure turpentine.



SEMI-METAL REEDS

New. Less expensive than all-metal, better than pitchband. Built like a battleship: ribs of half-round steel wire are wound with pitchband—and curve around the end pieces, holding them in place. Dents are perfectly even since they rest against the metal half-round ribs. Extra long cornices are clinched and soldered full length. Back is of metal.

Emmons

★

EMMONS LOOM HARNESS COMPANY
Lawrence, Massachusetts · · · Charlotte, N. C.

"CERTIFIED" STEEL HEDDLES · MULTIPLIED YARN SPACE REEDS · CHAFELESS CORD COTTON HARNESS

RAPIDASE

DE-SIZING

FOR COTTONS, RAYONS, AND MIXED GOODS

A Fast-Acting, Dependable Agent
Meeting All De-Sizing Requirements

WALLERSTEIN COMPANY, INC. 180 MADISON AVE., NEW YORK

Open Account Financing Scores Double Success

Slow-pay Customer Takes Tip From Creditor--Business and Credit Now A1

TO put reverse English on the old proverb, "one man's meat can be nourishing diet for the other fellow, too."

The Brown Corporation* was a regular user of our service. It gave their company money-power far in excess of what its regular connections had provided.

Brown had been selling considerable merchandise to Black & Company,* getting cash advances on shipment from us and clearing them off the slate as Black's checks came in.

But gradually, Black began taking longer time to pay.

Since he had long been a good customer of Brown's, we frequently permitted an extension of time, but advised a frank talk to see where things were heading.

They quickly found the reason. His regular bank credit wasn't enough to finance the volume of sales Black needed. His working capital was continually frozen in receivables. First he had to pass up discounts on his payables. Next, he was passing due dates.

Brown explained our service . . told how it was helping him. He urged Black to consult us. We were called in. We negotiated an arrangement, effective immediately . . without red tape or delay.

Then Black's business curve started up again. In little more than a year, Dun had improved his credit rating to A1. By the end of 1938, his net worth was nearly $200,000 greater, a healthy increase of nearly 30%.

★ ★ ★ ★

Which would be better for your business—a borrowing capacity set by routine consideration of your capital investment and an audit of your present condition? Or, a flexible financing system that looks ahead and provides liquid cash for financing new sales as fast as you can make them? Write "Dept. TM" for our free booklet "CAPITAL AT WORK".

**A fictitious name, but the facts and figures, taken from our records, can be certified.*

COMMERCIAL CREDIT COMPANY

"Non-Notification" Open Account Financing

BALTIMORE

BOSTON NEW YORK CHICAGO PORTLAND, ORE. SAN FRANCISCO

CAPITAL AND SURPLUS MORE THAN $65,000,000

Unmistakable Identification

In the entire realm of nature, identification is always complete and unmistakable. For your protection, for your customers' satisfaction and to meet all trade regulations, equally thorough identification for your merchandise is good business. In the realm of textiles, Kaumagraph Dry Transfers, Prestomarks, Embossed Seals, Lithographed Labels and Packing provide a complete service. May we confer with you concerning your 1939 Identification Program?

KAUMAGRAPH DRY TRANSFERS

Identification Headquarters

KAUMAGRAPH *Company*

200 Varick Street, New York City

Plants: New York City . . . Paris, Ontario . . . Manchester, England
Representatives in Principal Textile Centers of the World

Announcing NEW FEATURES

Continual improvements in such vital respects as the lubricating system, provide additional assurance of reliability and long loom motor life

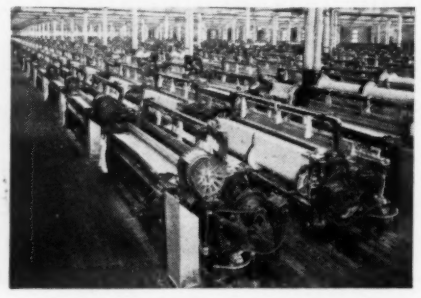
In addition to important improvements in the loom motor, extensive advances have been made in the loom motor switch. For example, a new vibration-resisting mechanism keeps the contacts closed in the ON position despite the hard knocks inherent to loom operation. Motor and switch together represent a *package of power* that assures efficient and economical loom drive.

NEW OIL SYSTEM

Loom motor oil reservoirs are exceptionally big. The oil filler—at the top—is easy to get at. Oil flows *directly* to the reservoir where an overflow drain establishes the correct level for effective lubrication. Improvements, too, have been made in the materials used and in the methods of manufacturing—assuring even better performance and longer life of these motors.

NEW LOOM SWITCH

This switch is available for top or side mounting on the motor, or for pedestal mounting. You need only to look under the cover to realize that it is easy to connect and to inspect—plenty of room at the top and bottom, and easy-to-wire terminals. The contact springs, of beryllium copper, provide ample tip pressure. The overload unit is completely enclosed to protect the mechanism and to maintain the desired heating characteristics.



At Pequot Mills, 4000 G-E loom motors have been operating for more than 20 years at less than five cents per motor per year for motor maintenance

SEE THE G-E "HOUSE OF MAGIC" AT BOTH FAIRS

# of G-E Loom Motors and Control

Bear in mind that the new features augment the *proved* advantages long available to the weaver using G-E loom motors — advantages such as: High speed sustained throughout the load range. The right amount of slip and flywheel effect to smooth out the power pulsations inherent to loom operation

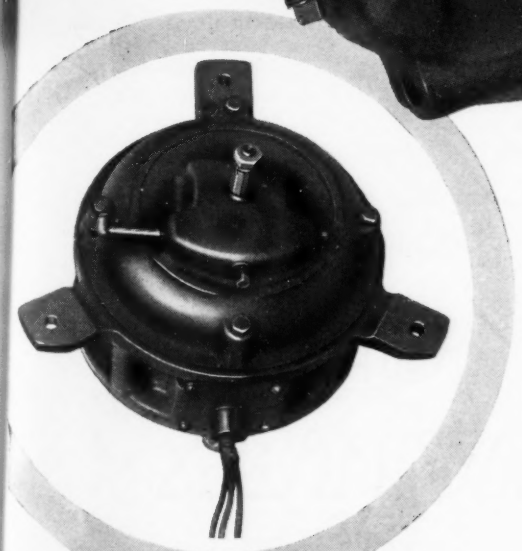
▲ Switch mounts right on the motor. Construction of the switching element assures operation in spite of the slam action inherent to loom operation

Easy to oil through self-closing filler at the top

Oil goes directly to reservoir—full point quickly discernible, minimizing likelihood of overflow seepage, saving time

Overflow drain establishes correct oil level. Easily removable to flush housing

Bronze bearing linings are supported by wide seats to resist the peening action inherent to loom operation



◀ Three-point suspension available for looms requiring this type of mounting. This motor has the same characteristics as the foot-mounted motor

General Electric Co., Schenectady, N. Y. 6B-201

Gentlemen:
Please send me publication GEA-1556A which describes G-E Loom Motors and Control

Name.....

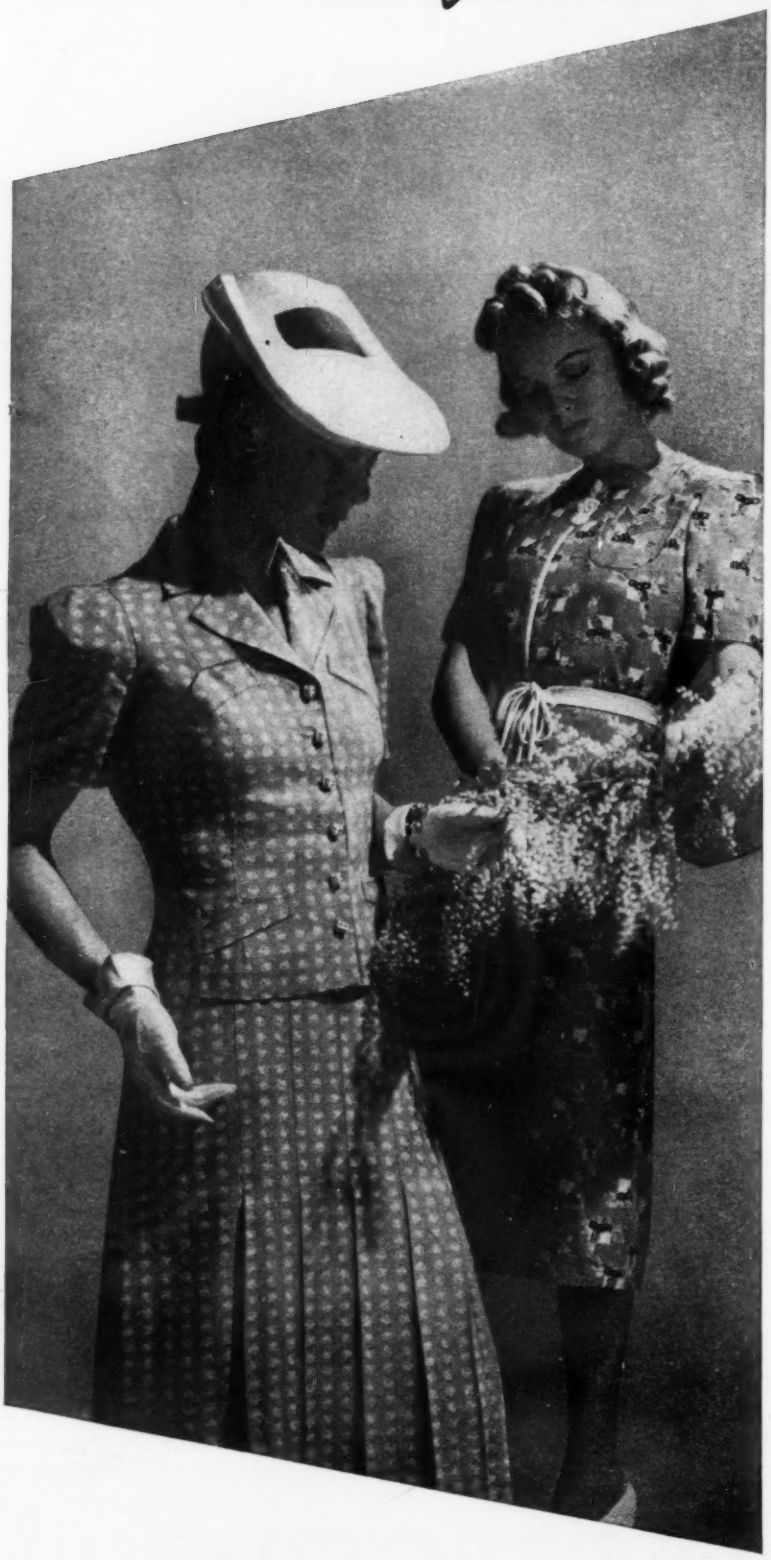
Street.....

City.....

State..... 011-456

GENERAL ELECTRIC

Months in storage



WOULDN'T HARM "AVITEX" FINISHED FABRICS!

FABRICS resist air-oxidation once they have been treated with "Avitex" finishing agents. There isn't any danger of yellowing, rancidity, or unpleasant odors developing even after long storage periods. Colors stay bright, whites stay white.

"Avitex" glorifies the natural qualities of your fabrics—makes them better-looking, more luxurious. Creates a deep full hand—a rich, smooth drape and brighter, more vivid colors.

We'll be glad to recommend the type of "Avitex" that gives the best results for your own particular fabrics.

DU PONT
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AVITEX
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TEXTILE FINISHING AGENTS

E. I. DU PONT DE NEMOURS & CO., INC., FINE CHEMICALS DIV., WILMINGTON, DELAWARE

Sales Offices: Boston, Mass., Charlotte, N. C., Chicago, Ill., New York, N. Y., Philadelphia, Pa., Providence, R. I., and San Francisco, Calif. Represented in Canada by Canadian Industries, Ltd., Box 1260, Montreal, Quebec, and 327 Bay Street, Toronto, Ont.

DIRECT AS SHOOTING

No Wonder Ditto *SPEEDS & SAVES* in Payroll!

Every time you plug a money leak you make profit, or else you have more leeway in setting prices. Ditto is helping to give that advantage to a rapidly increasing number of mills. The One-Writing Ditto Payroll Method is absolutely errorless. It accounts for every minute and every cent. It eliminates costly accounting machinery. It cuts work; all rewriting and posting are ruled out. And it provides necessary Government reports.

KNOW WHAT USERS SAY!

Burlington Mills: "Using in larger plants, now installing Ditto Payroll Method in smaller ones. Would have to add to personnel under Social Security Act were it not for Ditto" . . . *Bossong Hosiery Mills:* "Saves many hours, but, best of all, makes error impossible. Also, makes our forms, and is so useful we couldn't do without" . . . *Ashe Hosiery Mills:* "Ditto payroll method is one of the best things we ever did—eliminates error, saves time; couldn't do without" . . . *McLaurin Hosiery Mills:* "It is the complete payroll system, with minimum clerical work . . ." and so on by the score.

Earn by *not spending!* Get Ditto Payroll Method facts! Send for the free studies that have started so many mill managements on the road to genuine savings!

Get payroll studies, "Streamline Your Payroll," and set of payroll forms in use today in prominent mills. This material reveals impressive economies.

Because Ditto leads, Ditto offers both liquid and gelatin type duplicators.

Ditto

Ditto *Inc.*

2214 W. Harrison St., Chicago, Illinois

Gentlemen: At no obligation to me please send your detailed payroll study "Streamline Your Payroll."

My name and title.....

Mill.....

Town.....*State*.....

L. F. Dommerich & Company

Executive and General Offices

271 MADISON AVENUE
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For Manufacturers and Merchants

Inquiries as to our services solicited

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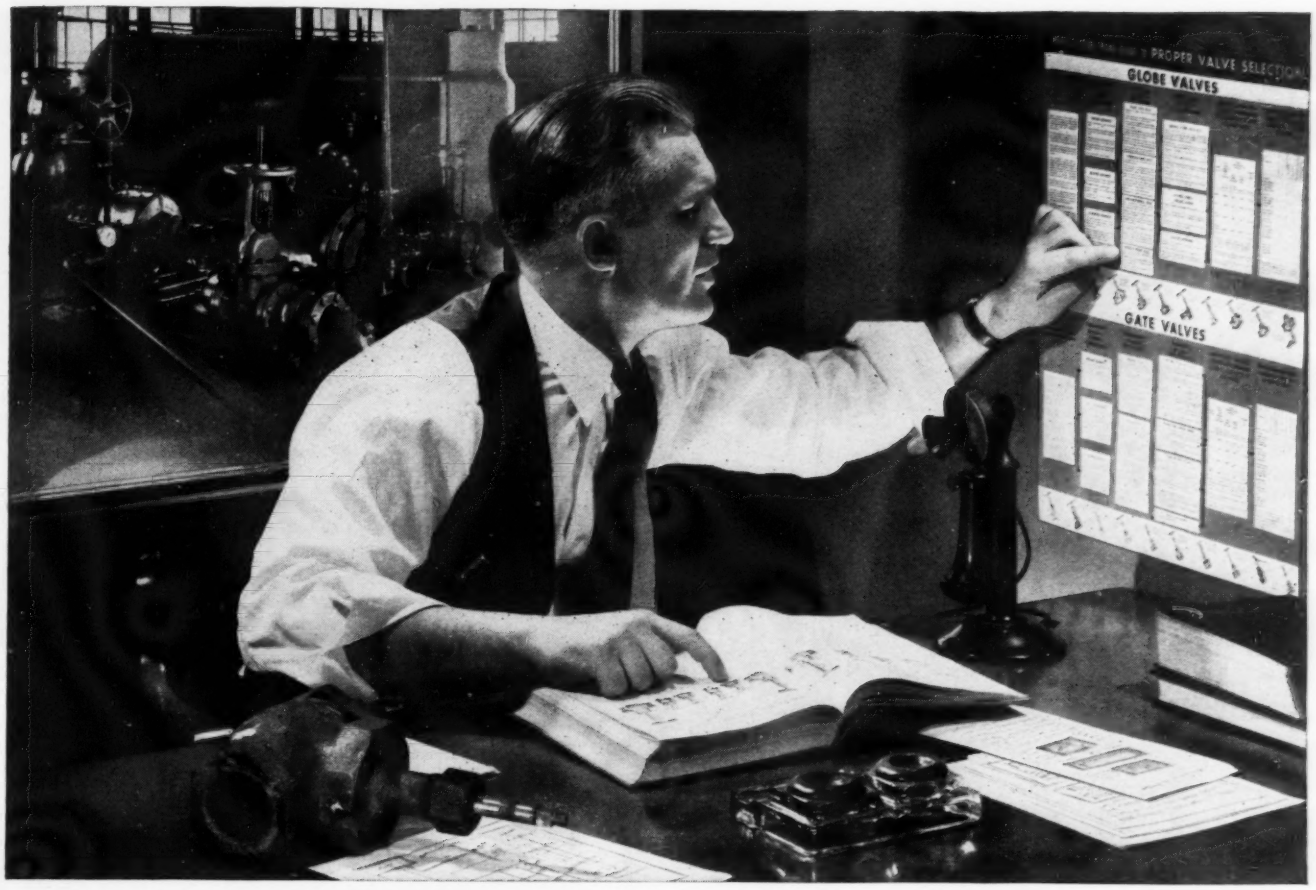

THIS SELECTION GUIDE LEADS YOU TO *Low-Cost Valve Maintenance*

ECONOMICAL valve performance begins with proper valve selection. In the broad line of valve types offered to industry today, there is one that is best suited for each service in your plant—one that will give dependable flow control at reasonable cost. "Trouble spots" and their high maintenance costs often result solely because of a mismatch of valve and operating conditions.

How to Pick the Right Valve

Mismatching of valves and requirements can be avoided. Let Crane's bulletin, "Service Characteristics of Globe Valves and Gate Valves," with its Valve Selection Guide, help you eliminate this hazard in your plant. This guide tells you how well each of the basic valve designs, globe and gate, and their many combinations of disc, bonnet, and stem types, are fitted to service conditions. Such information combined with *your* knowledge of *your* requirements, leads you to the ideal valve for each installation.

And Crane makes just the valves you need—in a quality that promises faithful performance—valves that have the inside stamina to assure low-cost flow control. Your Crane No. 52 Catalog lists more than 38,000 valves and piping items in a complete range of specifications.

Get This Valuable Guide Free

Send for your free copy of "Service Characteristics of Globe Valves and Gate Valves"—put it to use immediately. It takes the guesswork out of valve selection—guides you to piping satisfaction. Mail the coupon—now!

CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO

VALVES • FITTINGS • PIPE • PLUMBING • HEATING • PUMPS

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NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALERS IN ALL MARKETS

INDUSTRY BUYS MORE G-E WATER COOLERS THAN ANY OTHER MAKE

Nearly 2,000,000 people now enjoy cool, healthful, refreshing drinking water from G-E Water Coolers every day.

Dependable, Thrifty Performance Gives G-E the Preference

● In most lines of industry there is usually ONE make of product that is outstanding—that merits and gets the preference. In water coolers it's *General Electric.* There are good reasons for the G-E's great popularity, why it is first choice of industry . . .

Research Keeps G-E Years Ahead

G-E Water Coolers are famous for dependable low-cost operation and long life. The new Stainless Steel Water Reservoir that ends rust, leaks and corrosion is just one of many General Electric advanced features that contribute to *enduring* economy. The G-E delivers the thrifty service you *must have* to make your investment profitable.

Catalog Free—Ask for it Today

The big, new General Electric Water Cooler Catalog shows the complete G-E line of models and all their new features. Ask your G-E Dealer for a free copy or write today to General Electric Co., Commercial Refrigeration Sec. TC5, Nela Park, Cleveland, O.

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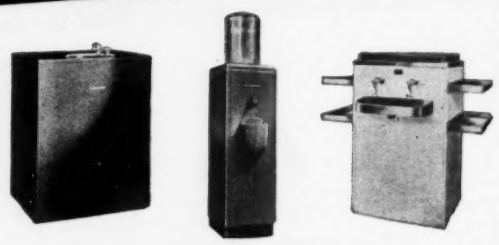
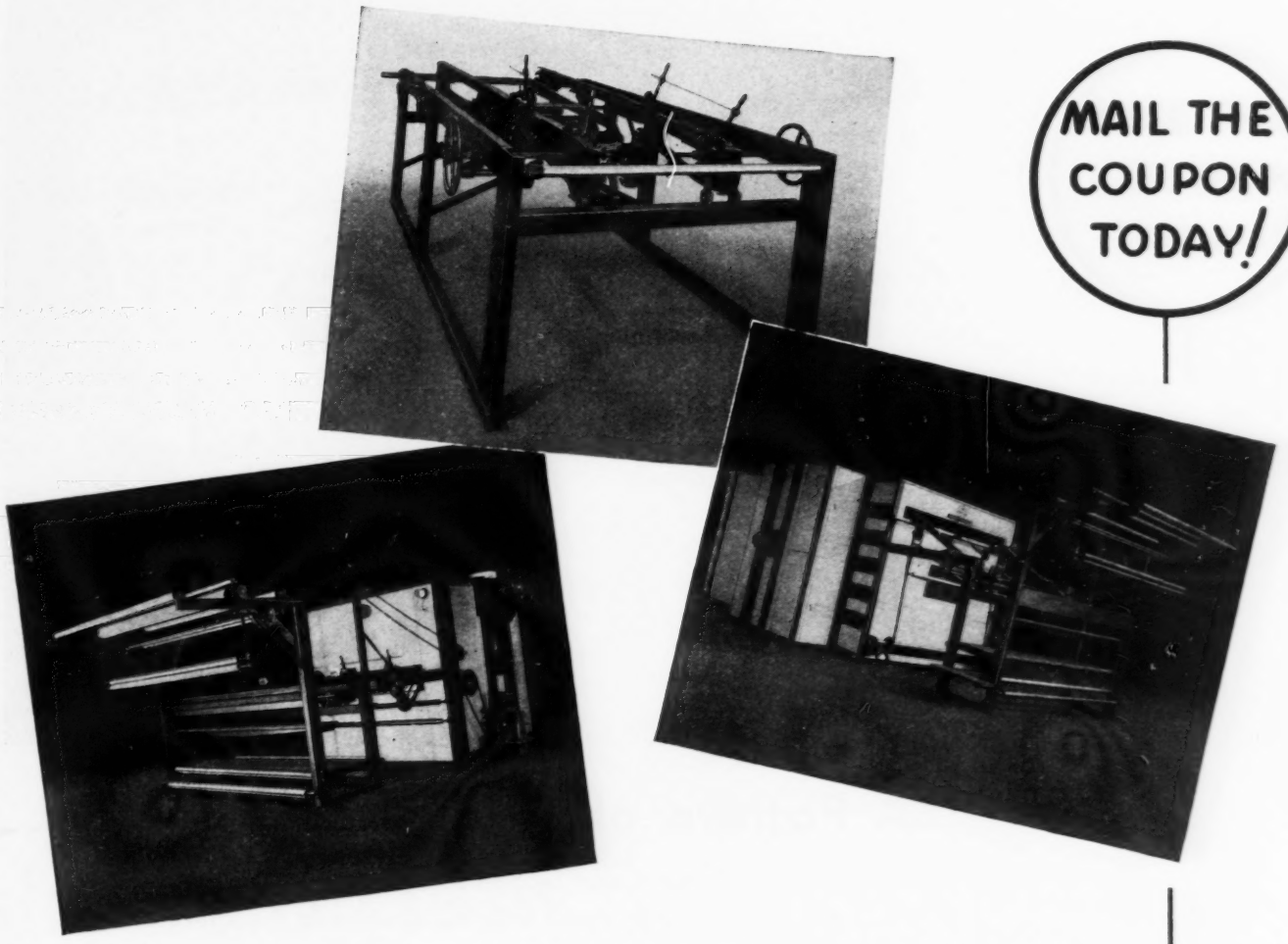


MODELS FOR EVERY NEED

TENTER DRYING TO MEET YOUR *individual* NEEDS



MAIL THE COUPON TODAY!

No six mills have the same requirements in the all important tentering operation. Some goods are open weave; some heavy felted meltons; some are rubber or cotton backed; some are wool and others mixed wool, cotton, mohair, rayon, etc.

Now Hunter offers you a Tenter Dryer to meet any requirements in one of a number of types—Cross Draft, Induced Draft, Rotary, and Straight-Away Pin Tentering — in a model and size for any need.

Over 100 installations in the past few years are ample warrant of the outstanding merit of Hunter Tenter Systems, which are complete and ready for operation.

Any textile man interested in the application of modern tenter drying to his mill is invited to mail the coupon.

JAMES HUNTER MACHINE CO.

NORTH ADAMS, MASS.

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E. G. PAULES, 343 Bendix Bldg., 1206 Maple St. Los Angeles, Cal.

JAMES HUNTER MACHINE CO., North Adams, Mass.

Please send me full information on Tenter Drying.

Name..... Title.....

Company .....

City..... State.....

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A Pattern of POWER and PROFIT

Admiralty Coal · DEPENDABLE ANTHRACITE · DENDRON · CRITERION COAL · RODA · STONEGA · Old Kentucky · CROZER · PREMIX STOKER · GENCO

While it is no doubt recognized generally, that all coal is not alike . . . only those who have adopted the specific coal of the right analysis for a given purpose, can be completely aware of the operating economies offered by the right coal.

The brands of coal available through General Coal each offer individual characteristics. A study of your power needs and facilities will disclose the one that is best and most economically suited to your plant. The service conveniences offered by General Coal's strategically located offices assure an additional advantage that means increased profits to you.

GENERAL COAL COMPANY

PHILADELPHIA, PA.

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GENERAL COAL

STANDARD OIL LUBRICANTS pay their way—day by day—through the economical combination of low *lubrication* costs, plus low *maintenance* cost of the textile machinery they protect from wear... Let our engineers show you how STANDARD OIL LUBRICANTS will effect lubrication economies in your mill.

STANDARD OIL COMPANY

INCORPORATED IN KENTUCKY

BUILD NEW PICKERS
RIGHT INTO YOUR OLD FRAMES

No matter how old the picker frames are, they are just as good as new if not cracked or broken.

About half the cost of a new picker is in the frame, and by putting all new parts into the old frames, you have new pickers.

You not only save the cost of making the new frames, but the freight and installation charges on this.

Aldrich Synchronized Single Process Pickers fed with the Gyrator Cleaning, Blending and Distributing Machine, have consistently produced cleaner and evener card sliver than any other picking system.

AldricH MachinE WorkS

Greenwood, South Carolina

DU PONT ANNOUNCES a NEW Dulux Mill White

REG. U. S. PAT. OFF.

IT'S DULUX HIGH-HIDING MILL WHITE

Developed to give excellent results with only ONE COAT

HERE'S the mill white that operators have been waiting for!

It's DULUX High-Hiding Mill White . . . developed in Du Pont research laboratories, carefully pre-tested under actual working conditions . . . and is now ready for sale.

DULUX High-Hiding Mill White lives up to its name. It has all the DULUX advantages of extreme whiteness retention, long life, low application cost.

But the big news is its amazing hiding power. The hiding of DULUX High-Hiding Mill White is so intense that, if the present finish is in reasonably good condition, it gives excellent results with only *one coat!* In cases where the present finish is very poor, it may require an undercoat.

DULUX hides exceptionally well because it contains a greater amount of pure titanium dioxide, the whitest pigment known to paint chemistry. It starts white and it *stays* white, thanks to the precise, time-proved balance of pigments with the DULUX vehicle.

For booklet containing full information about this new DULUX High-Hiding Mill White, just send in the coupon.

DU PONT
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DULUX
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HIGH-HIDING MILL WHITE

E. I. du Pont de Nemours & Co., Inc., Dept. DB
Finishes Division, Wilmington, Delaware

Please see that I get complete information about DULUX High-Hiding Mill White—and your new booklet.

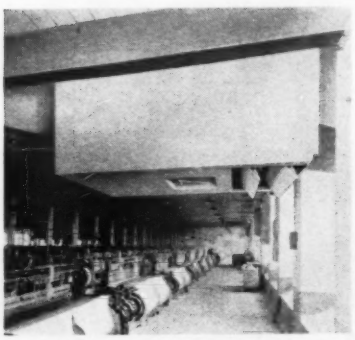
Name .....

Address .....

City ..... State .....

PARKS Automatic AIRCHANGER

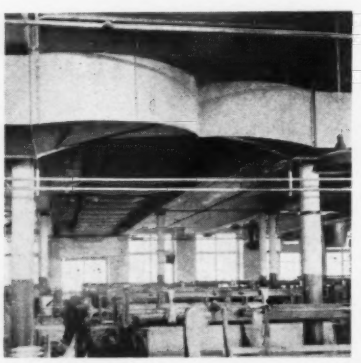
How it works . . . and what makes it different



1

AIR ENTERS

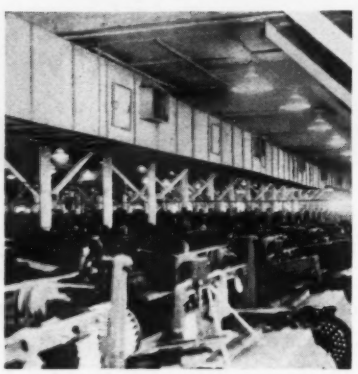
Fan in this mixing chamber draws in air . . . and propels it forward. Air comes from outside (opening not shown) . . . or from room (opening at bottom) or at times from both.



2

. . . IS PUSHED

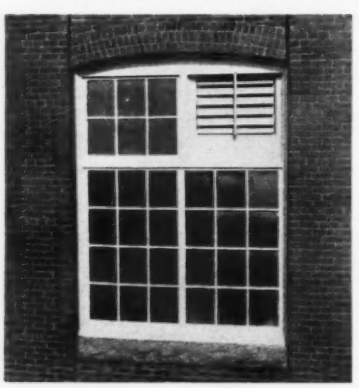
Pushed forward through ducts at ceiling, the amount of outside air . . . or its mixture with inside air . . . is regulated and automatically balanced with evaporation.



3

IS DISCHARGED

Discharged through a series of duct outlets, air circulates throughout the room. Free moisture from humidifiers evaporates, heat is removed . . . and marked uniformity, particularly of humidity, results.



4

. . . ESCAPES

The "measured service" air . . . and with it much of the heat . . . escapes through a series of automatic exhaust shutters. With a slight pressure in the room, leakage is outward, increasing uniformity.

What Makes an Airchanger?

Fans? Ventilation? Important, yes. But these do not make an Airchanger. Other systems blow—but are not Airchangers.

The Airchanger, with its automatic humidity regulation, keeps Humidity Constant. Otherwise it isn't an Airchanger.

Other systems can't control air change by the Humidity Regulator. So they fail at Airchanger's most vital spot.

The Parks patented Humidity Psychrostat begins to restrict air change immediately humidity falls off. Knows when to prod the humidifiers or hold 'em back; or when to increase the air change. Knows how to keep them in balance.

Knows how to keep humidifiers running, and get the most out of them for evaporative cooling.

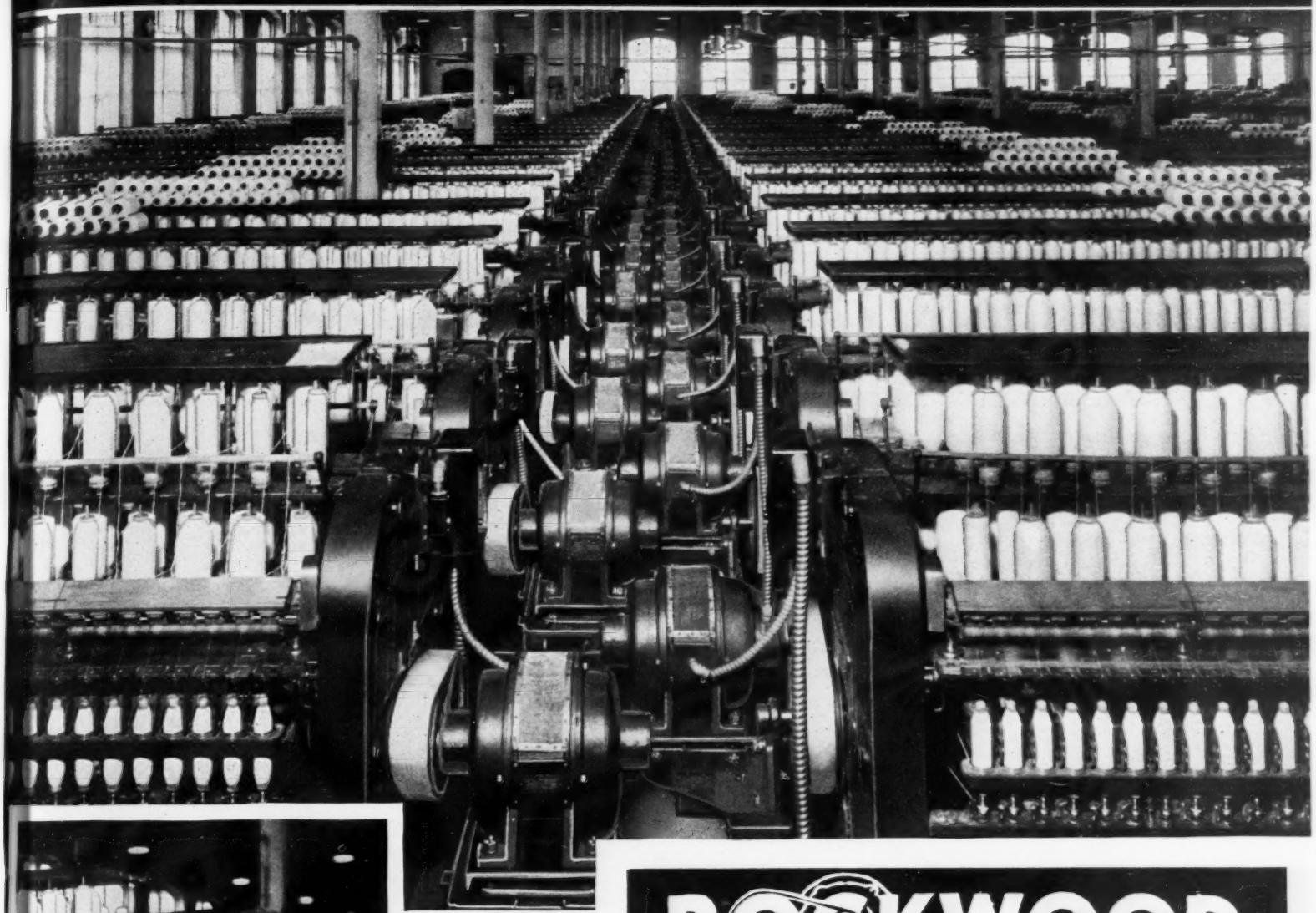
HUMIDITY STAYS PUT.

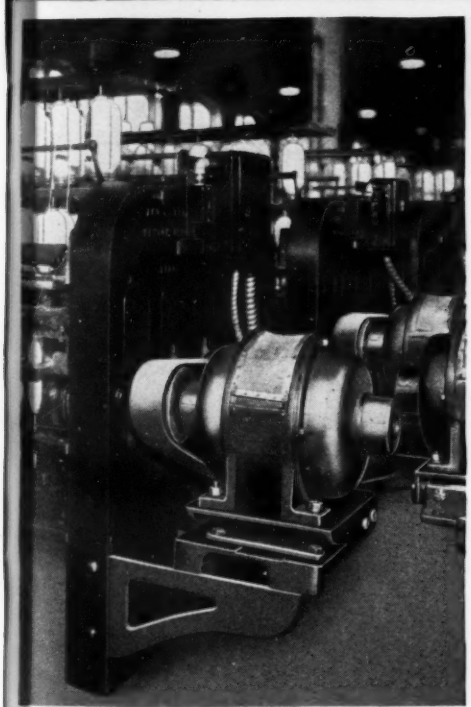
Only the Parks Automatic Airchanger has automatic humidity regulation of this sort. Without it, it isn't an Airchanger.

PARKS *Certified* **CLIMATE**

PARKS-CRAMER CO • FITCHBURG, MASS. • CHARLOTTE, N. C.

TYPICAL ROCKWOOD DRIVE PERFORMANCE
EASLEY COTTON MILLS • EASLEY, S. C.





Close-up of Rockwood shelf-type pivoted-motor drive for spinning frames. Note the compactness with which they can be installed. The weight of the motor, lightly cradled in the belt is used, first to establish and then forever after maintain, just the right amount of belt tension to handle the maximum load without belt slip. Belt life and bearing life are increased. Driven speeds are maintained uniform—better than ever before. Power is saved and drive maintenance greatly reduced.

ROCKWOOD
PIVOTED MOTOR DRIVE

Modernizing for more production and better quality.

When the Easley Cotton Mill (Easley Plant) modernized for more production and a better quality they—also—used a large number of Rockwood pivoted-motor-flat belt Drives. The pictures show some of the Rockwood individual Drives—mounted on the brackets of their spinning frames. The spinning frame speeds are maintained more uniformly and more and better production is thus assured.

Large cotton mills are turning to Rockwood Drives to fill the need for greater production, lower costs and better maintenance of quality. With Rockwood Drives the outstanding result is to increase production and improve quality. But they also save money by decreasing belt cost as compared to V-belts—and save power. Master mechanics like them, too, because they require scarcely any maintenance. That is why Rockwood Drives are so often referred to as "providing, for the first time, a short center motor drive that is truly satisfactory."

WRITE FOR A ROCKWOOD ENGINEER'S RECOMMENDATIONS FOR YOUR MILL. Investigate what can be done about increasing production and reducing your costs. Remember every Rockwood Drive is guaranteed to be satisfactory or we do not want you to keep it. Thousands of machines in leading cotton mills are already using Rockwood Drives—and it will pay you to know more about them.

ROCKWOOD MANUFACTURING CO., INDIANAPOLIS, IND.

How to get *fast, level dyeing...fewer seconds*

● Here's an installation of Taylor Fulscope Indicating Temperature Controllers on jigs. Wise owners put Taylor Control on *all* jigs. In one mill, 25 jigs are Taylor controlled!

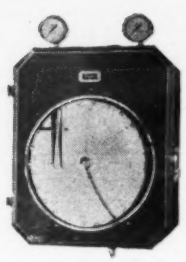
It's easy to end jig temperature headaches and watch profits jump with this Taylor Automatic Temperature Control!

HERE'S ONE SURE WAY to help end shading, off color, and fading headaches with your cloth: Guard jig temperature closely—as other mills do today—with automatic Taylor Temperature Control! This wide-awake control watches like a hawk over dye temperature, correcting even slight changes with split-second action. Thus, it helps give you better dyeing . . . fewer seconds . . . speeded-up production and labor efficiency . . . and a surprising dollars-and-cents saving.

Yes, you'll find, as have other mills, that Taylor Control is economical to buy and easy to control. It pays for itself quickly—and then starts earning dividends for you! So decide to talk over your problem with the Taylor Engineer. And write to us today for our free booklet on Textile Temperature Control. Taylor Instrument Companies, Rochester, N.Y. Plant also in Toronto, Canada. Manufacturers in Great Britain: Short & Mason, Ltd., London, England.

THE HEART OF TAYLOR CONTROL

This Taylor Recording Controller is easily adjusted to hold any dye temperature you want. It writes a minute-by-minute record of its accurate control. If you do not need written records, you may use the Indicating Controller instead.

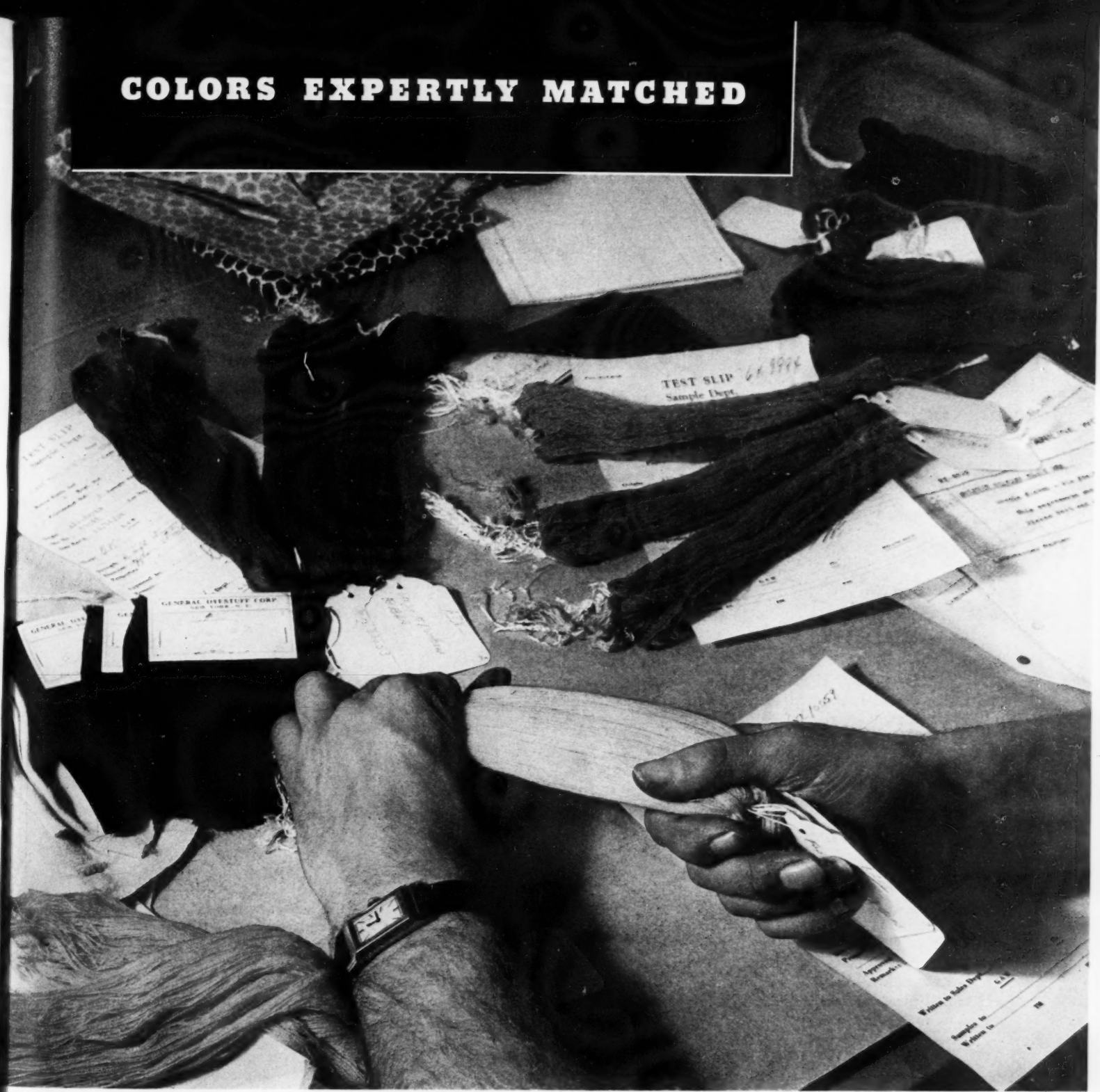


Taylor

Indicating | Recording Controlling

TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS

COLORS EXPERTLY MATCHED



The General Dyestuff Corporation offers you accurate color matches in the application of dyestuffs to natural and synthetic fibers. Our Technical Department with its modern laboratories and vast experience will be glad to suggest practical working formulas to assist you in your production problems.

GENERAL DYESTUFF CORPORATION

GDC

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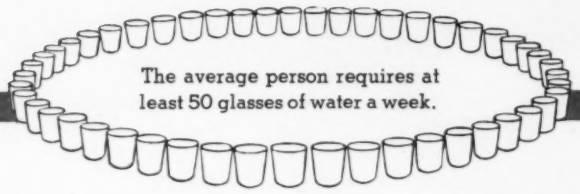
Boston, Mass. Providence, R. I. Philadelphia, Pa. Charlotte, N. C. Chicago, Ill. San Francisco, Calif.



STAINLESS STEEL TOP

...BEAUTY CURE FOR BREAKAGE COSTS

Enduring beauty that pays double dividends. That's the practical moneysaving story of the Stainless Steel Top . . . exclusive feature of Westinghouse Water Coolers. First, their clean, sanitary, attractive appearance encourages normal, healthful drinking. Second, they are unbreakable and chip-proof . . . eliminating a real expense hazard.

Other Exclusive "PLUS VALUE" Features

Special Capacity Booster . . . High Efficiency Cooling Chamber . . . Built-in Watchman Protection . . . Permanent Oil Supply . . . Burnout-Proof Motors . . . Hermetically-sealed Mechanism.

No grit, dirt, rust or corrosion . . . the things that cause most machinery to wear out, can harm the Westinghouse mechanism because it is Hermetically-sealed inside an airtight case of solid steel.

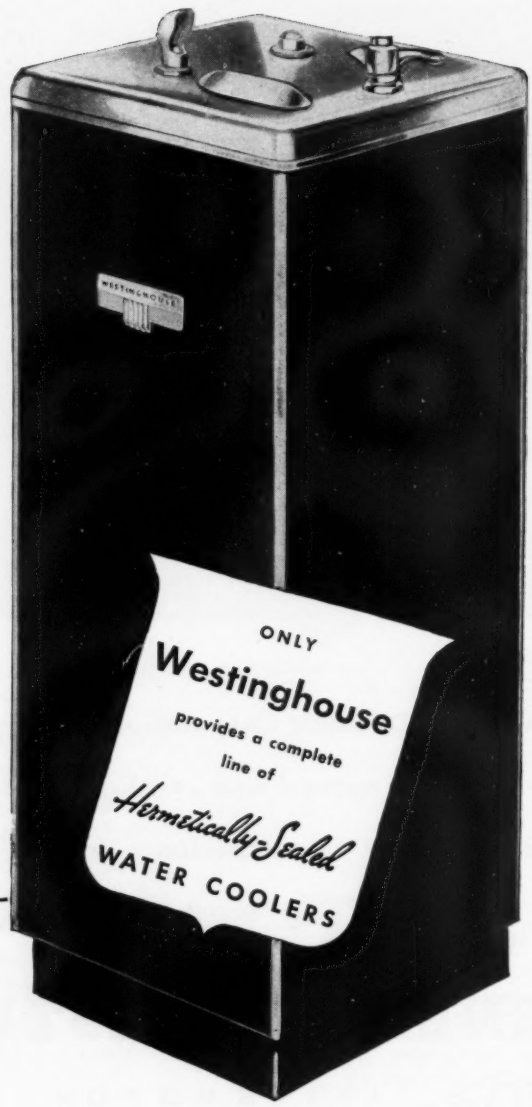
Because it is Hermetically-sealed, Westinghouse provides a plan for five year's protection on the sealed-in mechanism. This is based on the EXTRA years of trouble-free performance which experience shows you can confidently expect.

• • •

Westinghouse

WATER COOLERS

Explosion-proof models available



FREE. Ask your Westinghouse dealer for free copy of a useful folder—"How to Check Drinking Water Costs" or mail this coupon to—Westinghouse Electric & Manufacturing Company, Section 9050, Mansfield, Ohio.

NAME_____

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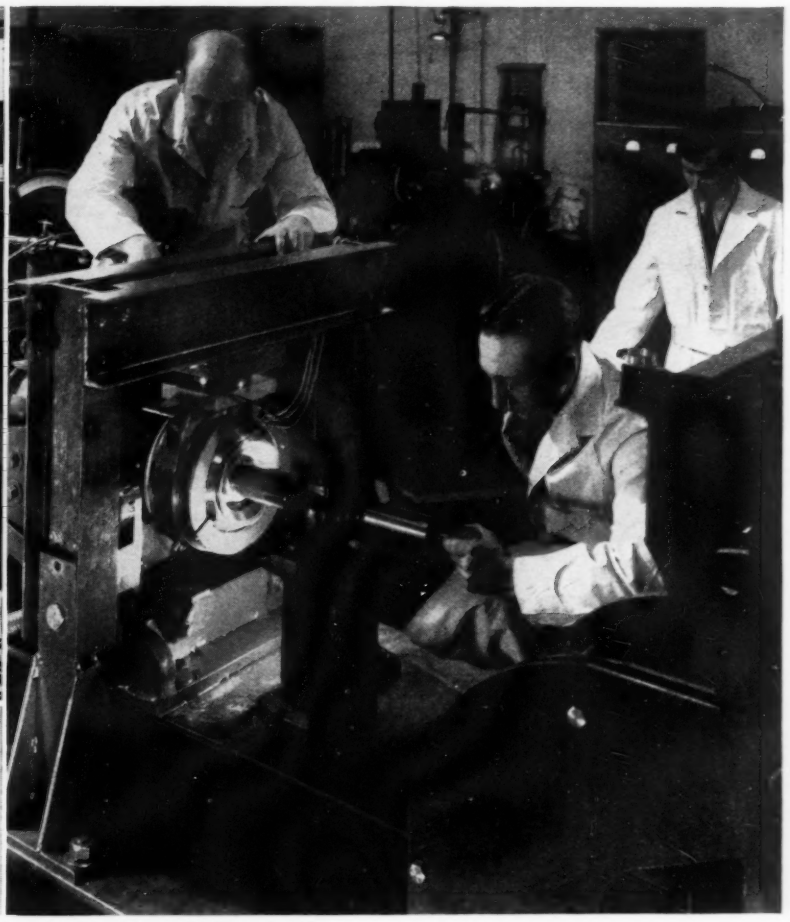
RESEARCH IN LUBRICATION

has created an extra margin of safety in GULF PRODUCTS

This experimental equipment — designed and built in the Gulf Research Laboratory — is used to test bearing lubricants under a wider range of operating conditions than are encountered in actual service. Thus Gulf's field engineers are able to recommend lubricants for specific applications which not only meet the prevailing conditions, but provide an *extra margin of operating safety.*



GULF TECHNOLOGISTS *test bearing oils under load and temperature conditions far more severe than are encountered in actual service.*

WHAT changes take place in an oil under severe service? What is its rate of oxidation? What is the safest oil to use for a particular type of bearing? Answers to these and many other questions regarding lubricants are being accurately determined each day in Gulf's modern research laboratory.

Special machines, designed and built expressly for this experimental work, not only duplicate the conditions under which oils must perform in service, but set up still more severe conditions in order to insure an extra margin of operating safety for the lubricant under test. Thus, the knowledge gained by many years of practical experience in lubricating machinery of all types can be supplemented with newly developed facts.

There is a Gulf quality lubricant which will insure minimum wear and long life for every bearing and moving part in your plant. Ask the Gulf engineer who calls on you to recommend the oils and greases best suited to your needs. They are quickly available to you through more than 1100 Gulf warehouses in 28 states . . . Gulf Oil Corporation—Gulf Refining Company, Pittsburgh, Pennsylvania.

GULF INDUSTRIAL LUBRICATION

Also A COMPLETE LINE OF FUEL AND FURNACE OILS

How much air conditioning *can your pocketbook afford?*

Here is a solution to the dollar-and-cents problem—when making cooling and humidifying improvements! . . .

SEVERAL WEEKS AGO a friend of ours decided he needed a larger home. A "new arrival" had crowded things up. But after our friend considered the cost of building, he said to himself, "Sorry, but I can't afford it".

Then he ran into his neighbor, the architect. Said the architect, "Why, George, you're foolish! Of course I can build you a new house—but you don't need one. Let me build you an extra room over your garage and put in another bathroom,—and your problem is solved!"

And that is exactly the way Sturtevant's cooling and humidifying plan works. If you need it—and can afford it—Sturtevant can give you the last word in a complete "engineered" evaporative cooling and humidifying system. On the other hand, you may not need—or perhaps cannot afford—to install a system as elaborate as this. For example, you may merely require some extremely low-cost equipment to supplement an existing humidifying system. But regardless of your needs, Sturtevant can supply cooling and humidifying apparatus to not only meet your requirements—but to fit your pocketbook, as well.

Check over the four plans to the right. They describe in a nutshell the wide variety of equipment made available by Sturtevant to help you solve your cooling and humidifying problem, at a cost within your means.

Our nearest representative will be very glad to sit down with you, discuss your problem and submit recommendations. This service entails no obligation and your request for it will bring a prompt response.

COOLING & AIR CONDITIONING DIV.
B. F. STURTEVANT COMPANY
HYDE PARK, BOSTON, MASS.
Atlanta Camden Chicago Greensboro
Los Angeles New York

Sturtevant
REG. U. S. PAT. OFF.
Puts Air to Work

PLAN 1.

Vap-Air Units—**An extremely low cost standardized unit for room cooling in conjunction with an existing humidifying system, supplying automatically controlled outside air. Easily installed by mill mechanics, it maintains even relative humidity at all times, prevents over-humidification, insures uniform distribution of air. All under automatic control.**

PLAN 2.

Vap-Air Blender Units Plus Your Head System—**A carefully engineered low cost system which provides a *guaranteed* summer temperature reduction. Installation under the supervision of Sturtevant experts includes revision of present humidifying system so as to provide desired degree of temperature reduction most efficiently. All under automatic control.**

PLAN 3.

Sturtevant Textile Evaporative Cooler and Humidifier System—**A "tailor-made" system, completely installed, of either several unit systems, or one large system. Provides lowest possible temperature obtainable without use of refrigeration. All under automatic control.**

PLAN 4.

Sturtevant Textile Evaporative Cooler and Humidifier System Combined with Supplementary Head Systems—**Essentially the same as Plan 3 but adapted for rooms requiring relative humidity above 65%. All under automatic control.**

Cooling & Humidification to Fit Your Pocketbook

MONOPOLE OIL

for all textile processing!

• Monopole Oil meets all of the exacting requirements of the dyer and finisher for bleaching, boiling-off, dyeing, kier boiling, sizing and finishing or wetting-out.

Monopole Oil has the unique qualities of stability, penetration, resistance and softening power. Readily soluble in hot or cold water, it produces well penetrated dyeings, bright colors, and leaves the yarn or fabric in a soft and lustrous condition. It is a double sulphonated product for all textile processing.

Monopole Oil continues to lead. Claims made for the new wetting-out agents at prices much higher than Monopole Oil only confirm the advantages Monopole Oil has given the dyer and finisher for the past 40 years.

FREE! Write today for booklet and samples for your own testing.

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"FACE TO FACE"

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no eye strain

no contortions

no tricks

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RECORDING | CONTROLLING · INDICATING

Instruments

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PRESSURE · FLOW · HUMIDITY

with

mono-therm

INDICATING THERMOMETERS

Easily read, accurate temperature facts mean real savings. You can read Foxboro mono-therm Dial Type thermometers easily even from a distance of twenty feet. The figures and graduations are white on a dull black background free from highlights. A white, eye-leading pointer indicates exact readings. It is never necessary to take readings in obstructed or poorly illuminated surroundings because the indicator may be located as much as two-hundred feet from the bulb. This enables you to bring it out from a maze of pipe — out of dark corners — and at any desired level. » » » Dial Type thermometers are responsive, accurate, and give unfailing service. Each instrument is accurately calibrated—not at just one midway check point, but over the entire scale. From bulb to spring the thermal measuring system is an integral metal unit. » » » Every Foxboro instrument embodies exclusive advantages—in accuracy, readability, speed and long-life—developed by years of Foxboro experience. Accept only the best indicator—specify Foxboro and be sure. Write for Bulletin 148.

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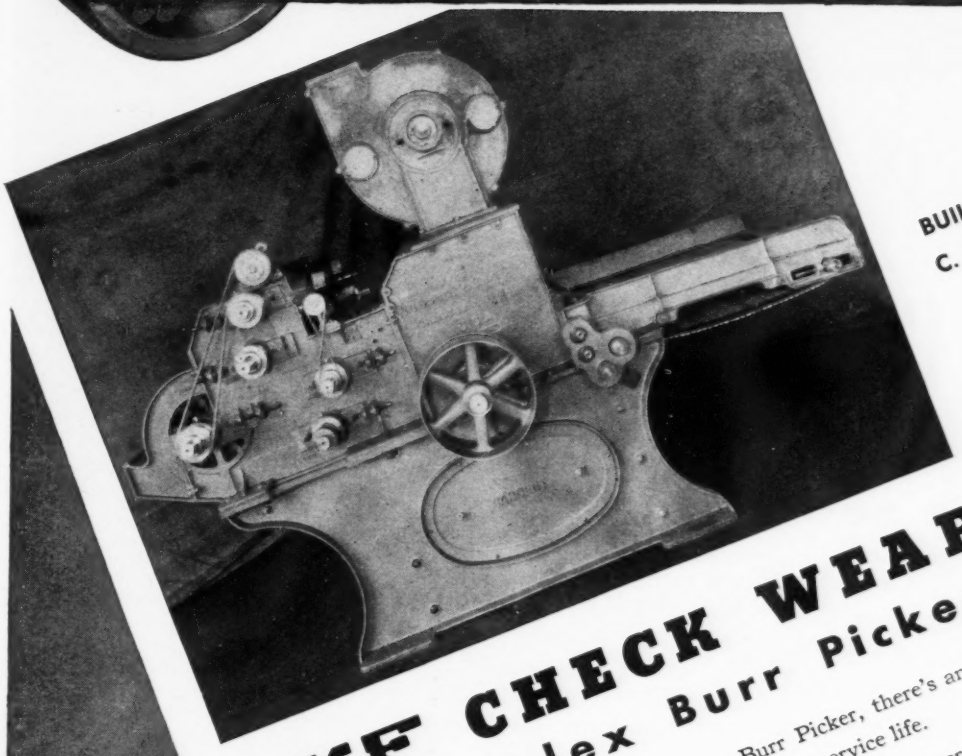
SKF

BALL AND ROLLER BEARINGS



BUILT BY
C. G. SARGENT'S SONS CORP.

SKF CHECK WEAR on Multiplex Burr Pickers

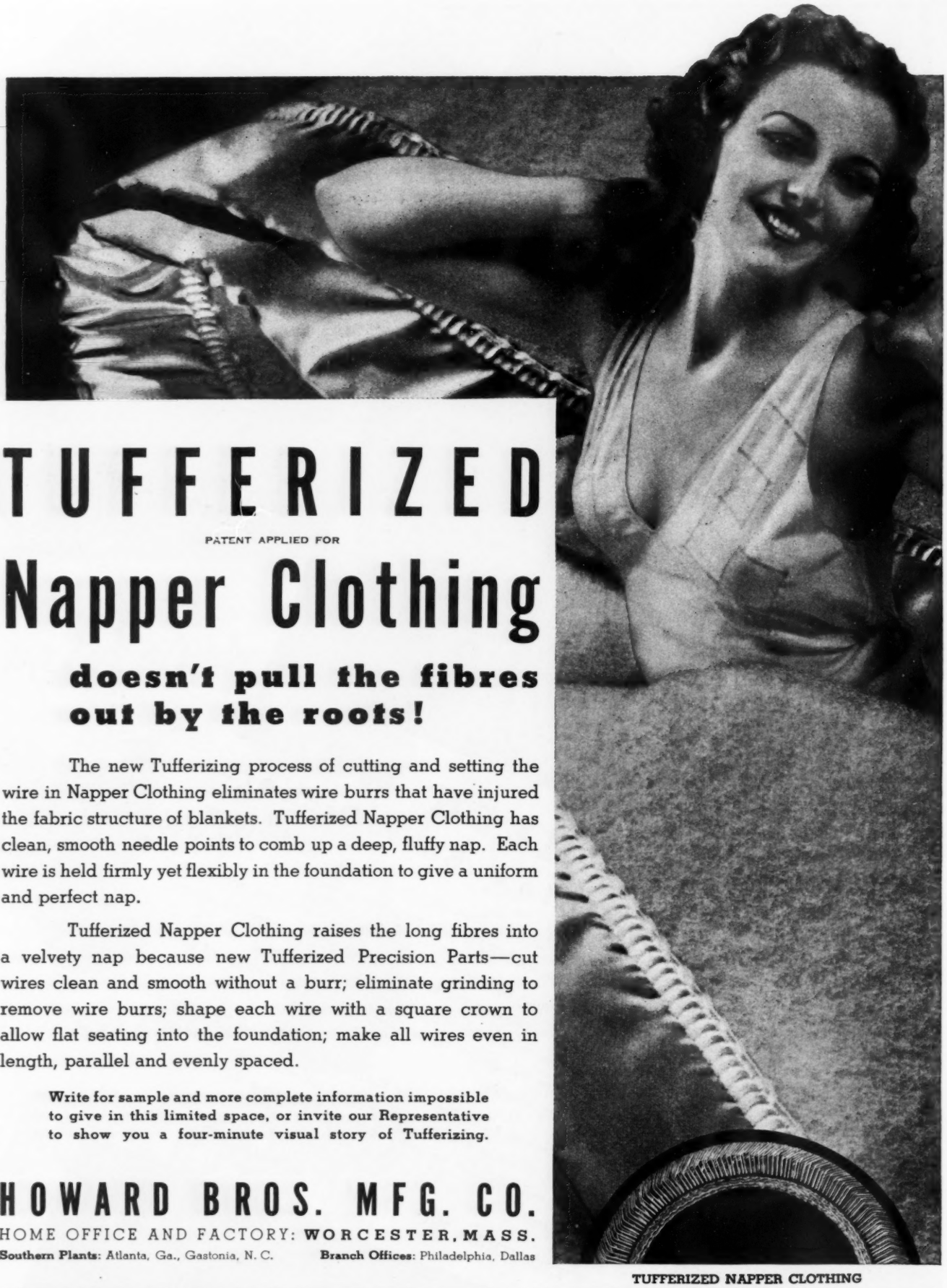
Wherever there's a shaft on this Multiplex Burr Picker, there's an SKF to protect it from the constant WEAR that threatens service life.

Thanks to Sargent engineering, every bearing is located wherever there's a possibility of WEAR on rotating parts. Thanks to SKF engineering, every bearing is self-aligning to compensate for shaft weave without sticking. It has reliability. It has the ability to maintain the proper position of shafts without the slightest trouble.

With a combination of advantages like that, it is only natural this machine burrs and cleans cotton or wool up to 5″ long at minimum maintenance costs. You, too, can resist WEAR on your machines by having SKF handle your bearing problems.

4287

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.



TUFFERIZED

PATENT APPLIED FOR

Napper Clothing

doesn't pull the fibres out by the roots!

The new Tufferizing process of cutting and setting the wire in Napper Clothing eliminates wire burrs that have injured the fabric structure of blankets. Tufferized Napper Clothing has clean, smooth needle points to comb up a deep, fluffy nap. Each wire is held firmly yet flexibly in the foundation to give a uniform and perfect nap.

Tufferized Napper Clothing raises the long fibres into a velvety nap because new Tufferized Precision Parts—cut wires clean and smooth without a burr; eliminate grinding to remove wire burrs; shape each wire with a square crown to allow flat seating into the foundation; make all wires even in length, parallel and evenly spaced.

Write for sample and more complete information impossible to give in this limited space, or invite our Representative to show you a four-minute visual story of Tufferizing.

HOWARD BROS. MFG. CO.

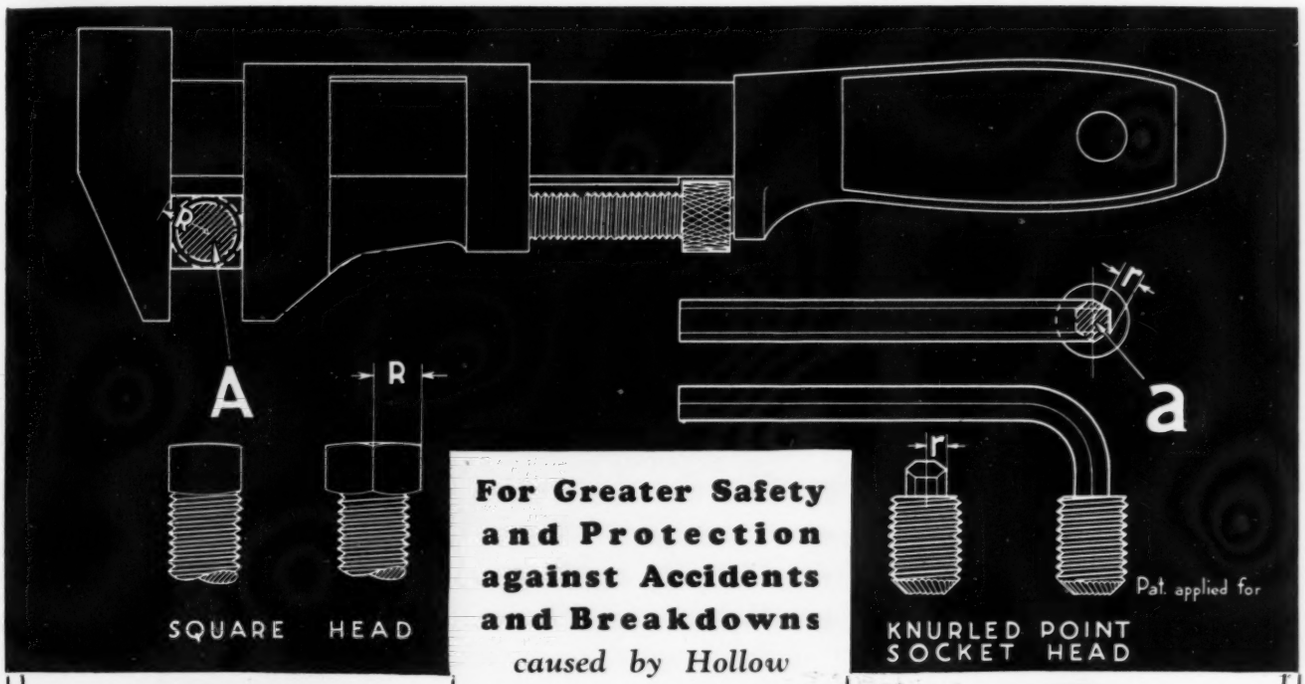
HOME OFFICE AND FACTORY: **WORCESTER, MASS.**

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas

TUFFERIZED NAPPER CLOTHING

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant — Midgley Patented, and Howard's Special Hand Stripping Cards — Inserted-Eye and Regular Wire Heddles.

HERE'S THE PROOF



For Greater Safety and Protection against Accidents and Breakdowns *caused by Hollow Set Screws Working Loose*

YOU NEED

UNBRAKO

SELF-LOCKING HOLLOW SET SCREWS WITH THE KNURLED POINTS

Fig. 1645
Pat. App. for

Fig. 1641
Pat. App. for

There was a time when it was perfectly all right for Square-Head Set Screws to project from all kinds of exposed hubs and whirling machinery, in spite of the obvious danger involved.

But that was before the "Safety First" movement got under way and finally swept the country.

Before long, the dangerously projecting Set Screw was "taboo" throughout industry, to be replaced by the Safety Socket Set Screw—used almost exclusively today.

While invariably a fairly hefty monkey-wrench is being used for pulling up and backing off Square-Head Set Screws; the Safety Set, on the other hand, and due to its Socket feature, can only be worked by a comparatively light and short hex bar-wrench, and therefore cannot be tightened up anything like as hard as its Square-Headed rival.

The result of this is that Socket Set Screws, especially when subjected to more than ordinary vibration, are quite liable to shake and work loose; the advent of the Knurled Point "Unbrako" Socket Set Screw completely overcomes this drawback. By knurling the point the "Unbrako" takes such a hold—gets such a tenacious grip—that it just can't and therefore won't shake loose, even when pulled up only moderately hard, and thereby becomes an ideal self-locker.

The screws shown on blue print above, while of the same diameter, are, however, of two different types—the one on the left a Square-Head Set between the jaws of a monkey-wrench; the one on the right a Socket Set with hex bar-wrench inserted.

Reference is made to the cross hatched area at the root of thread of the Square-Head Screw by the letter "A" and similarly to the section of the hex bar-wrench by "a" and hatchings—these being the two critical sections.

The ratio between areas "A" and "a" is about 3 to 1, and inasmuch as the steels of which both screws and the hex bar-wrench are made differ very little in strength, it is obvious that the latter would twist off at a torque that would not affect the Square-Head Screw to any appreciable extent—in other words, the Socket Set can't possibly be pulled up as hard as the other, which merely goes to prove how necessary the Knurled Point is, as contended above.

STANDARD PRESSED STEEL CO.

BRANCHES BOSTON DETROIT INDIANAPOLIS

JENKINTOWN, PENNA.

BOX 582

BRANCHES CHICAGO ST. LOUIS SAN FRANCISCO

SEEING is BELIEVING

this detail-revealing light means better workmen and better light!

Every thread is clearly defined—so distinctly as to appear magnified—when the detail-revealing light of Cooper Hewitts is used. Giving operators the best light available makes the mere physical act of seeing easier. Profit-consuming eye-fatigue is reduced—dividend-reducing shadows are virtually non-existent. Result: more uniform high-quality production is assured. Every operation, including inspection, is easier, more accurate and faster when this "better than daylight" illumination is used. » » » Sharp, clean-cut Cooper Hewitt lighting costs less than ever before. Plants where appropriations are closely controlled down to the last penny are installing Cooper Hewitts right now—as the best means of spending slim modernization budgets. They are benefiting from over 30 years of experience in the application of engineered light to practically every textile operation. Give us your toughest job—then you be the judge. General Electric Vapor Lamp Company, 853 Adams Street, Hoboken, New Jersey.

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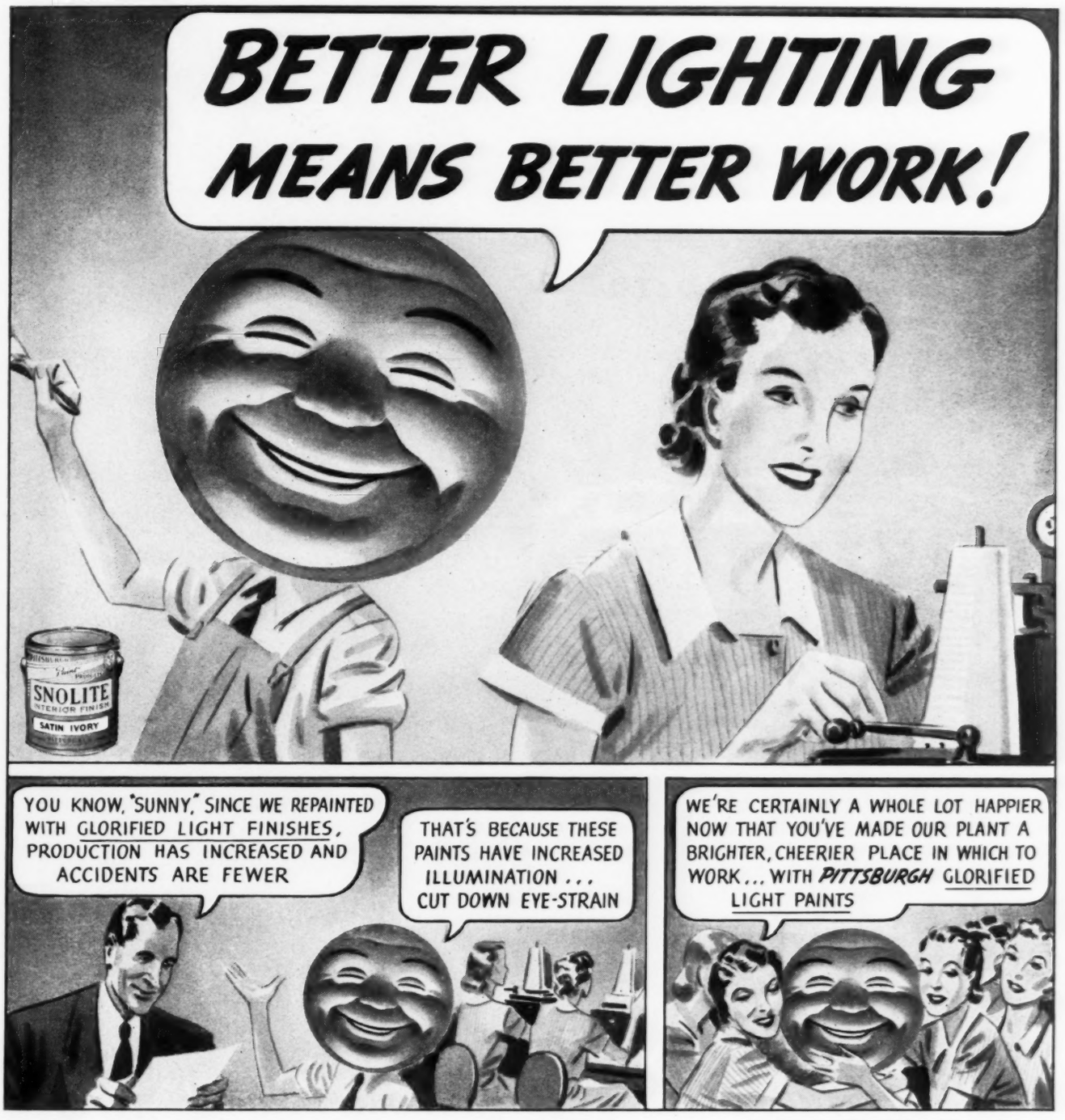
COOPER HEWITT MERCURY VAPOR LIGHT

BETTER LIGHTING MEANS BETTER WORK!


SNOLITE
INTERIOR FINISH
SATIN IVORY
YOU KNOW, "SUNNY," SINCE WE REPAINTED WITH GLORIFIED LIGHT FINISHES, PRODUCTION HAS INCREASED AND ACCIDENTS ARE FEWER
THAT'S BECAUSE THESE PAINTS HAVE INCREASED ILLUMINATION . . . CUT DOWN EYE-STRAIN
WE'RE CERTAINLY A WHOLE LOT HAPPIER NOW THAT YOU'VE MADE OUR PLANT A BRIGHTER, CHEERIER PLACE IN WHICH TO WORK . . . WITH PITTSBURGH GLORIFIED LIGHT PAINTS

Paint Profitable, Beneficial Illumination Throughout Your Plant—With Pittsburgh Glorified Light Paints!

MAKE *your* employees happier, cut down accidents and increase production in *your* plant—by repainting with Pittsburgh's scientifically prepared Glorified Light Paints. These quick-drying, long-lasting finishes have been developed with leading authorities on light control to reflect and diffuse available raw light. They turn wasted candle power into bright, cheery, profitable illumination. This helps do away with the nervous tension and fatigue often caused by incorrect lighting—brings you better working conditions, increased production. Pittsburgh's Glorified Light Systems—there's one for every type of factory—are fully described in the book, "Glorified Light." Send for your copy and see how much *glorified light* will help in your plant.

THERE IS A GLORIFIED LIGHT PRODUCT FOR EVERY TYPE OF FACTORY!

THE SNOLITE SYSTEM will bring profitable Glorified Light into any plant with normal interior surfaces.

THE SNOTEX SYSTEM is designed for all abnormal interior surfaces except those affected by fungus growth. It resists discoloration from humidity, fumes, gases.

THE FUNGUSIDE SYSTEM effectually retards the growth of fungus. It is vitally necessary in bakeries and food plants.

PITTSBURGH PLATE GLASS CO., PAINT DIVISION, PITTSBURGH, PA.

Copr. 1939 Pittsburgh Plate Glass Co.

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Smooth as Glass

COMPLETE LINE OF STRUCTURAL MAINTENANCE FINISHES

Pittsburgh Plate Glass Company,
Paint Division, Dept. C 5,
Pittsburgh, Pennsylvania

Send me free your book, "Glorified Light".

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an Inquiry will not obligate you

THRIFT

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GRAPHIC ARTS COMPANY
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HORSEPOWER RELEASED

MILLIONS OF SPINDLES—each in its tiny bearing—*helped* on its way or *hindered* by a few drops of oil!

Millions of spindles—each turning smoothly without friction and wear because of proper lubrication—can pile up many dollars in savings in textile mills.

Shell engineers and technicians have worked long and hard on this problem. They have developed a line of textile lubricants to meet it . . . to help textile men convert more horsepower into finished products.

Shell Textile Oils are highly resistant to oxidation—of high chemical stability to resist breakdown and costly gum formation. This stability gives them long life and an ability to resist deterioration under high speeds and difficult conditions. And their comparatively light body—their high adhesion and low cohesion help them pile up savings in power dollars.

There is a complete line of Shell Textile Oils available all over America for every job in the mill.

Don't miss the SHELL DISPLAY at the KNITTING ARTS EXHIBITION

BOOTHS 413 and 414

SHELL

SHELL TEXTILE OILS

Better running work
Fewer gouts or bunches
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VOL. 103 MAY, 1939 NO. 5

COTTON
SERVING THE
Textile Industries

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War Wave Ripples

Czecho-Slovakia, Austria, Memel, Madrid, Germany are far away—yet battles and war scares correspond somewhat to throwing a stone in a lake and setting up little ripples which wash out far, far away from the disturbance. One of our recent advertisers, F. CASABLANCAS, told us of property tied up in Spain and his hopes for a Rightist victory which seems to be completed. Our recent mail included an urgent letter from the one-time editor of Austria's only textile publication. Being of Jewish extraction, he was fleeing from Austria with its domination by the Germans. Another personal letter from Detroit, from a German friend of the same faith, tells of his handing over his profitable exporting business with several generations' background to the Nazis in return for a chance to get out and start life anew in this country.

◆

Closer Home

Still closer home comes the following letter from a Philadelphia advertising agency. Any textile manufacturers who wish to get in touch with Mr. Lindsey with respect to his requirements may do so. Many a reader may wonder if Mr. Lindsey's client is an exporter or if he wishes to fill up a warehouse—just in case.

"One of our Clients has requested us to help him to locate the following articles:

(a) Uniforms, Shoes, Men's Socks, Underwear, or any wearing apparel used by soldiers—in large quantities.
(b) Used Machinery of a Production or Fabricating type, such as machines used in manufacturing shoes, underwear, etc.
(c) Used or New Tool Machinery.
(d) Auto—Trucks.

Our principals are responsible—desire large quantities—and will pay spot cash."

W. D. LINDSEY
The Albert Kircher Co.,
Philadelphia, Pa.

◆

Still Abroad

Mr. Gandhi's enormous following in India evidently eschew his raiment because the Indian textile industries seem to be flourishing and our mail contains numerous requests for information such as the following:

". . . . an article on Spinning Problems published in your magazine and we shall be very much obliged if you will let us have an extra copy of this issue."

BEGG, SUTHERLAND & CO., LTD.
The Elgin Mills Co., Ltd.,
Cawnpore, India.

"I am reading your paper with much interest regularly. Now I want to prepare twines of coarser yarn, e.g., 3/6s, but I wish to give finish and polish in the hank form. Can I get any literature or booklet on finishing sewing threads."

JETHALAL PRANLAL
Raipur, Pipordi-Pole,
Ahmedabad, India.

(An early article in our pages will treat on polishing and glazing of yarns.)

From English Hosiery Mill

Just to show that we don't play any favorites, we want to include a letter from the land of Mr. Gandhi's traditional enemy, England:

"I have been a subscriber for the past eight years. A few years ago you published an article in pamphlet form containing the method of needle straightening. Have you this article in print, or could you print 400 copies for us as we are breaking in a lot of new help and think this article would be very helpful in teaching the knitting trade?"

A. W. MUTCHLER
The Full-Fashioned Hosiery Co., Ltd.,
Baldock, Herts, England.

(Two articles on needle straightening in pamphlet form have been widely read and can be furnished full-fashioned hosiery mills both here and abroad.)

◆

Back Home—Cross Indexes

All of our subscribers are not abroad and Jim Farley's stamps carry the bulk of our requests for information along a broad front, even including an every-day detail like cross indexes covering the articles carried in COTTON the previous year which we issue for the benefit of those who save their copies. We were a little late in getting out the indexes covering 1938 issues and have had a world of inquiries for this from such people as John P. Harrison, Muscogee Mfg. Co., Columbus, Georgia; E. H. Warren, Cannon Mills, Kannapolis, N. C.; E. S. Chodd, Dixie Mercerizing Co., Chattanooga, Tenn.; Frank Pyatt, Marion, North Carolina; Claude F. Miller, Hickory, N. C.; C. H. Crump, Fairfax, Ala; Nelson Harte, Merrimack Mfg. Co., Huntsville, Ala. To Messrs. Harrison, etc., and to all who have previously been on our list to get this information, 1938 cross indexes have already gone out. Additional copies, as long as they last, will be furnished upon request.

◆

Insects in Mills

The item on "Insects in Mill" in February issue (no reference to any of the two-legged variety you may have in mind) got a request from John J. Landy, R & H Chemical Dept., E. I. du Pont de Nemours Co., to reprint it in their house organ called "Fumigation Pointers".

◆

Paging Joe Miller

If we ever start a joke section to replace the puzzles, we certainly will want something better than the following which are being broadcast by a belting salesman (name withheld for obvious reasons):

"How could a traveler, cast upon a desert island with no vegetation, get food?" Answer—"He could eat the *sandwiches* there"—or—"A woman is securely locked and bolted in a room but when her captors return for her, she is gone without trace of breaking any locks or bolts. What became of her?"—Answer, "The *radiator*".

P. S. We like this answer better, though—"She stepped upon a set of scales and stole *away*."

Dyeing and Finishing

The series of articles on "Modern Methods of Dyeing," by Edward W. Pierce, is eliciting a good many favorable comments from readers throughout the country. Late comers to our table and some who passed up the first two courses are now writing in to get copies of the early issues. Some of these include G. E. Cooke, Belding-Corticelli, Ltd., Montreal, Canada; Bertram H. Saunders, Ho-Ho-Kus Bleachery, Ho-Ho-Kus, N. J.; H. W. Stiegler, Stamford, Conn.

Also, belated recognition comes from H. W. Rose, American Cyanamid & Chem. Corp., New York City, who requests a copy of "A Description and Study of Textile Printing", appearing in COTTON last year and written by C. Norris Rabold, Union Bleachery, Greenville, South Carolina. This same series gets extra requests this month from Sayles Biltmore Bleacheries, Inc., Biltmore, N. C., and from Penick and Ford, Ltd., Cedar Rapids, Ia.

◆

Building Hosiery Plant

For the second time COTTON in a month gets in on the ground floor, both literally and figuratively, on the building of another knitting mill as evidenced by the following indication of our reputation as a hosiery mill paper:

"Please send me a year's subscription. . . . I intend to open hosiery plant soon and I will need all of this information."

STEPHEN KEE
2618 Croyden St.,
Philadelphia, Pa.

◆

More Competition

This business of being a columnist is getting more competition all the time and the field seems to be a little crowded. The editor of COTTON even seems to have aspirations to be a second Walter Winchell as he carried a daily column during the Greenville, S. C., Textile Exposition in the Greenville *Piedmont* and received a lot of favorable comments from this.

Another interesting column in the Greenville *News* issue of April 2nd devoted to the Show reprinted "A Bit of History" from COTTON, November, 1917, commenting on the actual constructive work that prominent Greenville citizens did to secure and retain the most important general textile show in the world in the face of competition from other Southern cities.

◆

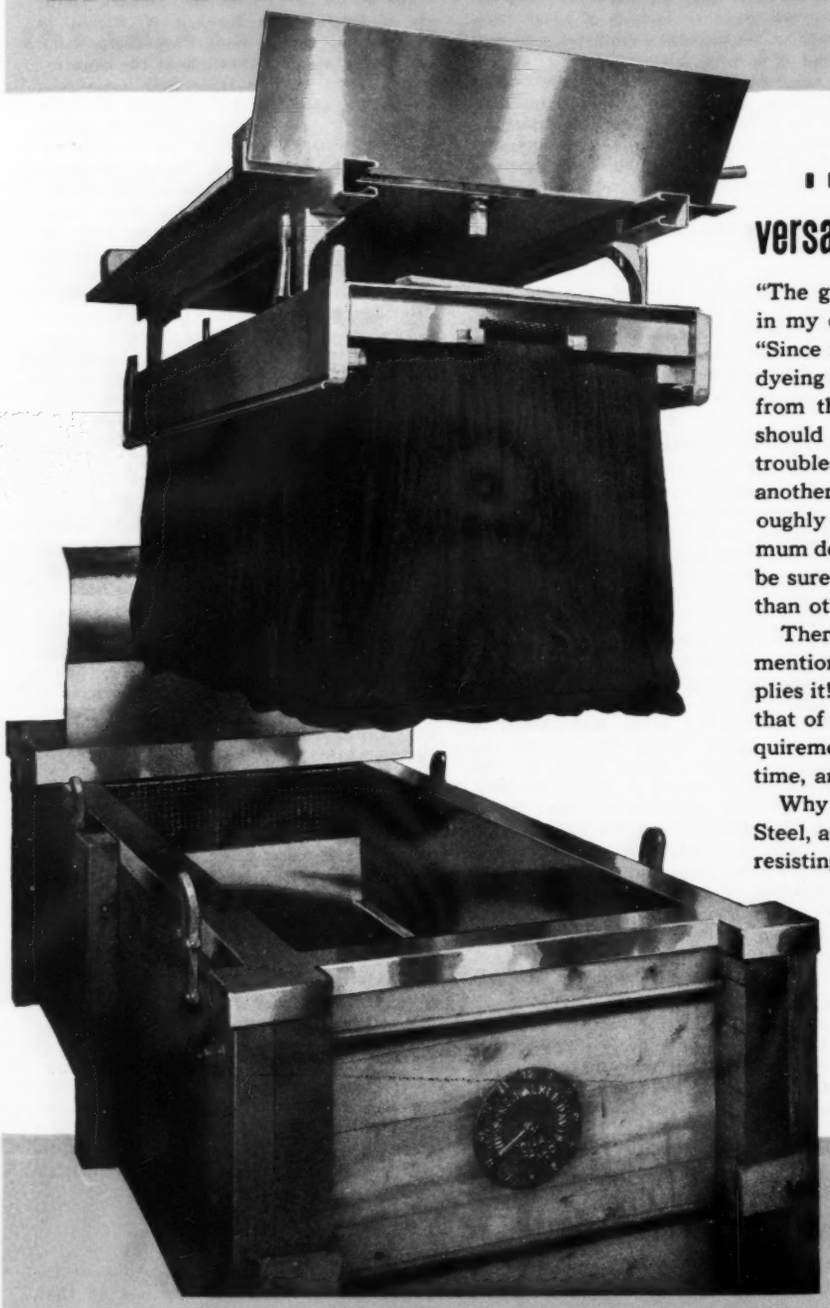
What Curls?

Speaking of columnists, another of the breed, and a charming lady one at that, wrote in the *Greenville News:*

"And at the COTTON booth . . . Dick Smith. Dick doesn't like for you to say that he is the son of W. R. C. Smith of COTTON and other Textile publications but he is. Dick is the sort of fellow who likes to be out on his own . . . and he is on his own too. He's the business manager of COTTON and a very efficient one he makes in spite of his honey-colored curls and his charming Southern manner."

My, my, my.

MANAGER TELLS 3 ways ENDURO SAVES IN THIS DYEHOUSE



To insure maximum length of life, be sure your ENDURO tank linings are *properly installed*. Write Republic for information.

....."All tests prove it the most versatile metal for dyehouse service"

"The greatest asset of this perfected stainless steel, in my opinion, is its great durability," he continues. "Since it defies the action of the solutions we use in dyeing yarn, we are assured of much longer service from the equipment. Then, too, this service is and should continue to be free from the maintenance troubles common to most equipment materials. And another big advantage is the fact that we can thoroughly clean our ENDURO* tanks in no time, with minimum delay. This means we can change colors rapidly, be sure of our colors, and get along with fewer tanks than otherwise would be possible."

There is just one other dyehouse requirement not mentioned by this plant manager . . . yet ENDURO supplies it! It is *high strength* . . . strength far in excess of that of ordinary steel. Thus ENDURO meets every requirement "on the nose" . . . and saves money, saves time, and assures a perfect product doing it.

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Vol. 103, No. 5

COTTON
SERVING THE
Textile Industries

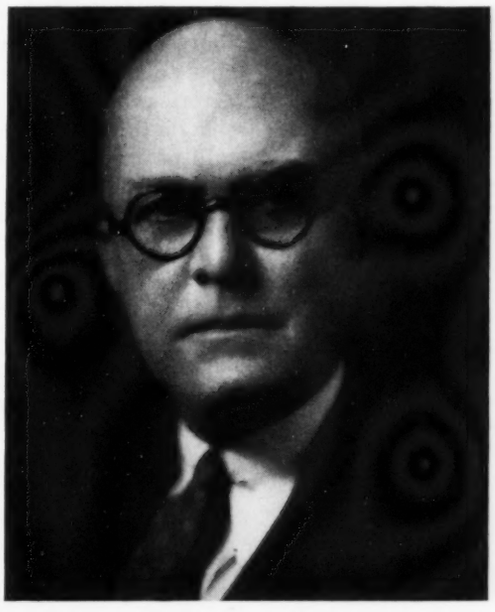
May, 1939

"...from the Eastern Part of the State"

A Word Picture and Brief Biography of the New President of the American Cotton Manufacturers Association . .

WHEN native North Carolinians, wherever dispersed, refer to "the eastern part of the state", the allusion is to more than a geographical portion of the commonwealth. It connotes an atmosphere, a traditional background rich in the good things of life, which is self-evident in this area that sweeps eastward from the Piedmont foothills to the sea, and in its people.

Just at the turn of the present century—in the fall of 1900, to be exact—a slender young man, with crinkly, light-brown hair, a serious but complacent mien, and an athletic stride, a scion of the highest heritage of "the eastern part of the state", was a familiar figure to the residents of Durham, then a struggling North Carolina town of some 7,000 people. Out west of town, past Trinity College, the young Erwin Cotton Mills were just getting started, and each week-day morning this young fellow could be seen wending his way from a mill village home where he resided, to the mill office to begin his duties there.



The young man was Kemp Plummer Lewis, now president and treasurer of The Erwin Cotton Mills Company, who last month, through his election as president of the American Cotton Manufacturers Association, received at the hands of his fellow southern cotton-textile manufacturers the highest honor within their power as a body to bestow. A study of him and his life and works, particularly the events transpiring between his unspectacular entry into this business and the setting of the capstone upon his business career, is therefore timely.

Kemp Lewis was born in Raleigh, N. C., on September 12, 1880, the son of Dr. Richard H. and Cornelia (Battle) Lewis. His father, a leading physician and oculist, came originally from Pitt County, moving to Raleigh in 1877. Dr. Lewis, one of the distinguished men of the North Carolina medical profession of the time, was also secretary of the North Carolina State Board of Health and served the state splendidly in the development of health legislation and in service to the state. He also served as president of the American Public Health Association.

Kemp's maternal grandfather was Dr. K. P. Battle, a distinguished name in North Carolina history. He was an educator of note and ability; after the wreckage and dislocation of the War Between the States caused the future of the University of North Carolina to be questioned, he was elected its president and served the institution ably in that capacity for more than 15 years. In 1813, another of Kemp's forbears, Joel Battle, founded one of the first cotton mills in the South, over in "the eastern part of the state" at Rocky Mount, and after 125 years, the property, although completely rebuilt, is still a cotton mill operated by another descendant of the early sire.

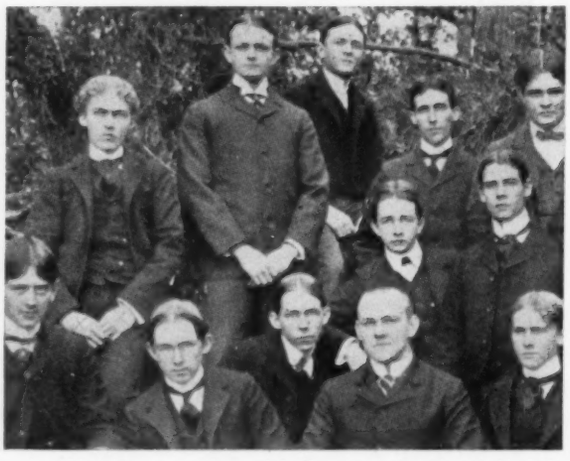
Young Lewis attended prep school at the Raleigh Male Academy, presided over by Professor Hugh Morson, noted far and wide for his inspiring idealism and influence upon his boys. In 1900, Kemp was graduated from the University of North Carolina at Chapel Hill, with an A.B. degree and a Phi Beta Kappa key, a tribute to the grades he made as a quiet, methodical and receptive student. In college he played tennis, and, like most college boys, imagined he could sing. Evidently he could harmonize fairly well, because he sang for some years in the choir of the Episcopal Church.

Dr. Lewis and the late Mr. W. A. Erwin were fast friends. Mr. Erwin was, in 1900, in the process of developing the mills that bear his name. High-minded and ambitious, he was seeking young men who could and would measure up to his standards, and on October 3 of that year, Kemp began his association with this titan of North Carolina, and has never worked

anywhere else. Starting as stenographer to Mr. Erwin, young Lewis rapidly assumed additional duties, and as the organization grew and expanded under Mr. Erwin's leadership, Kemp's own responsibilities increased and enlarged. Originally, the plant now known as Mill No. 1, in West Durham, was the company's entire interest, with 25,000 spindles. In 1904, No. 2 was built at Duke (now Erwin, N. C.) and Lewis was in charge of that plant for Mr. Erwin. He continued as purchasing agent of the company and right-hand man to Mr. Erwin, who was secretary-treasurer of the corporation, until 1919, when he was made assistant secretary-treasurer. In 1927, Mr. Erwin succeeded Mr. B. N. Duke as president, and Lewis was made secretary-treasurer, and in 1932, upon Mr. Erwin's death, he was elevated to the position of president and treasurer, which he now holds.

During this span of years, the Erwin group has been expanded, on a conservative but progressive program, until it now constitutes one of the outstanding mill enterprises in the industry. In 1906, the No. 3 plant at Cooleemee was acquired. In 1910, the No. 4 mill and bleachery at West Durham were built. In 1926, No. 5 was built at Erwin; and in 1932, the No. 6 Mill (formerly Pearl Cotton Mills) at Durham, was purchased. The present equipment of the company's plants—all of them in North Carolina—includes a total of 192,092 spindles and 5,436 looms—with a sheeting bleachery and sewing plant in connection with No. 4 Mill, and a bleachery and dyeing plant at No. 3 in Cooleemee. The company manufactures denims, sheetings, sheets and pillow cases, suitings, cantons, tickings, coverts, outings, flannels, etc.,—a fully rounded line of products which through the years has been eminently successful. Erwin mills are capitalized at $15,000,000, and the company's plants when on full time consume about 110,000 bales of cotton annually.

An intimate study of the Erwin organization as such is not pertinent here, except to provide the setting of the career of this self-effacing industrialist and by its policies and practices, to reflect the philosophies and accomplishments of its head. For more than four decades, the company has grown and prospered, to the benefit of the communities in which it operates and to the profit of its stockholders and its several thousand employees. For most of that time, from its inception, W. A. Erwin was its head and guiding spirit. He set its successful policies upon the keystone of his own high character and principles. For 32 years prior to his passing in 1932, Mr. Erwin had at his right hand his associate, Kemp Lewis, whose own rich store of background and training supplied fertile soil for the implanting of the successful fundamental business principles of the Erwin organization. So harmonious were the two men in their principles and functioning, that as the mantle of responsibility fell from the founder to his successor, those policies have endured without discord and without break.



KEMP LEWIS AT CHAPEL HILL IN 1900
In this photo of part of the *Zeta Psi* chapter at University of North Carolina in 1900, Kemp Lewis is the first figure at left in second row . . .

Failing health forced Mr. Erwin into semi-retirement several years before his death, and in that interim, Kemp Lewis shouldered more and more responsibility, and his election as president in 1932, cloaking him with the complete responsibility, was noted mainly by the change of title and his physical assumption of the new office. Original policies, whose shaping he greatly influenced, have continued.

Kemp Lewis' strength as the head of the vast organization he directs and the position of respect and esteem he commands throughout the industry are a reflection of an unusually ample supply of good common-business sense, a judgment of values—human and material, an innate gentility, a broad-gauged sense of fairness, and a complete reliability. There is nothing of the spectacular or dramatic in his activities or his accomplishments. In the words of a long-time associate, "Kemp has not had an adventurous life." His personality and movements are more the quiet but irresistible pull of gravity rather than loud, dynamic influence. He pursues an orderly, dignified and quietly effective course, because he is inherently a retiring, genteel person who would be completely unhappy trying to operate in any other way.

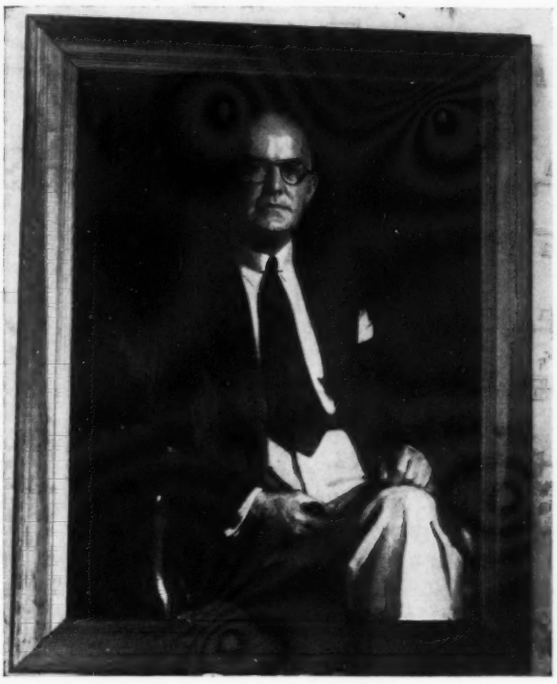
But that does not in any manner imply a lack of force. To the contrary. For Kemp Lewis' men, his associates—and, in certain circumstances not unique in business today, his opponents—know that beneath an honest exterior of graciousness and consideration there is an equally honest layer of unshakable adherence to principle and stubborn integrity. Both characteristics being rooted in his Eastern North Carolina antecedents and upbringing. He knows cotton mill people. He lived in the Erwin village from 1900 to 1912, which gave him an excellent insight into the life of the people and the spirit of the mills.

On April 16, 1912, Lewis was married to Miss Lottie Sharp, a young lady from over in the eastern part of the state who was residing in Durham at the time. Mrs. Lewis is the daughter of the late Carroll Sharp of Hertford County, and the niece of the late W. D. Pruden, of Edenton.

The Lewises reside in a beautiful colonial home on Duke Street in Durham, and have been blessed with four lovely daughters: Ann, who is in business in New York; Margaret, now Mrs. Henry Clark Bridgers; Lottie, a student at Sweetbriar; and Martha, who is attending St. Mary's in Raleigh. Their home is celebrated for its social charm and hospitality, as is their summer place up

at Virginia Beach.

Lewis is a tall, well proportioned figure, with the atheltic grace of a much younger man. His eyes, clear and penetrating behind shell-rimmed glasses, are his dominant feature. Poised, deliberate in manner, he is an attentive but impassive listener, and a good conversationalist. His mind is quick, his decisions clear and definite and promptly made. His head—which artists properly call classically molded—is almost completely devoid of hirsute adornment. He is completely undemonstrative emotionally, presenting an appearance of reserve and, even under pressure, maintains a graceful equipoise that approaches stolidity. Though he has grown up in the tobacco manufacturing belt of the South, it was only a few years ago that he took up smoking, and now his pipe, which he tamps with a golf tee from his vest pocket, is his constant companion. He is an informal, neat, but not fastidious dresser. He has two brothers: Richard H. Lewis, president of the Oxford (N. C.) Cotton Mills; and Ivey F. Lewis, dean of the University of Virginia. A sister, Miss Nell Battle Lewis, is a teacher at St. Mary's School in Raleigh and a well known columnist for the *News and Observer*.



This oil painting of Lewis, made during vacation at Virginia Beach, hangs in the family dining room of his home in Durham . . . . . .

Golf and Bridge Are Diversions

While Kemp Lewis is not the first American Association president to be familiar with cards, he is the first to admit to an abiding and genuine interest in the game of contract bridge, which he enjoys frequently, with Mrs. Lewis, in company with a congenial circle of friends in Durham. Mrs. Lewis was interviewed on the technical aspects of his game, but spoke entirely off-the-record.

Golf is Kemp's other major diversion. All of his life he has tried, with exceptional success, to leave his business problems at the office. This has been less true within these last few chaotic years. Investigation among his golf associates discloses that the final stakes are never set in their friendly games until after the first nine holes. It seems Kemp calls the office between nines, and the "game" is set according to his facial barometer on the tenth tee.

Kemp Lewis is genuinely liked and respected by every member of the vast Erwin organization. His popularity springs from a tested knowledge of his complete sense of fairness and his inherent leadership. Erwin Mills is one of those rare textile organizations that seldom lose a man except by death. They stay with it, and there are many who covet a place in it. The qualities that make it attractive to those on the outside prevent, by their very nature, anything but the rarest opening, for it has always been the company's policy to advance its own men. The result is that largely speaking, Lewis' immediate associates are men who have come up in the organization and have been promoted as they and the organization have grown together. The same policy is gradually being extended on down the line. Every man in the organization knows his responsibility, and has the commensurate authority. An attitude of harmonious and effective co-operation pervades the entire personnel—all stemming back to Lewis as a co-ordinator of administration and spearhead of policy. The whole business operates in an atmosphere of conservative informality; the manner of its functioning gives no hint of its tremendous size, yet there is a progressiveness of attitude, and an effective efficiency, which the external appearances do not always disclose.

A significant element in Erwin is that the distribution of its products has been handled by Joshua L. Baily & Co. for more than 40 years. Baily had their head sales office in Philadelphia until 15 years ago, when at Erwin's insistence, they moved to New York.

The Erwin Cotton Mills Company constitutes Kemp Lewis' major and practically his sole business activity. He has always felt it best to concentrate upon one important job rather than to scatter his efforts over too broad a field. He is, however, president of the Erwin Yarn Company, headed in Philadelphia by Sam H. Garrett; he is president of the Bank of Harnett at Erwin, N. C.; and inactive vice-president of the Fidelity Bank of Durham. For some years, he was a member of the Durham Rotary Club and of the school board, but recently business duties have caused him to relinquish these and other civic duties in which he would like to participate. He is a vestryman in St. Philip's Episcopal Church, and a member of the Hope Valley Country Club of Durham.

The councils of the textile industry have always found in him a ready and competent supporter of worthwhile industry activities. He has long been a member of The Cotton-Textile Institute, Inc., and is a past president of The Cotton Manufacturers Association of North Carolina, and has for years been an active member of the American Association. He brings to its presidency for the coming year a sound business judgment, a liking of people, a fairness and tolerance, a quiet, self-effacing leadership—all of which belong unreservedly to the industry during his term of office.

"I Never Did See the Old Buzzard"

THE DISCUSSION between the mill buyer and the salesman in the April issue of COTTON reminds me of an enlightening episode dating back a good many years when I was just beginning to get acquainted with the intricacies of the business of selling something to textile mills.

The Place: The office of the Grimshaw Manufacturing Company.

The Time: During the twilight years of the Great Stuffed Shirt Era.

I was new in the territory and selling something that the folks in this neck of the woods evidently never heard of and consequently didn't want. I tripped hopefully up the front steps into the office and was confronted by one of those salesman-proof mahogany and glass barricades that seemed to be an indispensable part of all the mills in that region. The only vulnerable point in this fortification was a miniature portcullis about 10 inches wide and 18 inches long, arranged like the door of a rabbit trap and securely bolted on the inside.

In many mills these little doors were solid wood and protected the inmates from being spied upon by common, ordinary traveling men. Of course the opaque doors had a push button or some other means of raising the alarm, but this one having no signaling apparatus was equipped with a bit of transparent glass; the only glass of the sort in the whole facade. By peering through this glass, I could see the barnacles on Mr. Grimshaw's payroll diligently going through the motions of pretending to do something, so that in case the Vizier or perhaps the Sultan himself should suddenly pop out of his tomb, they would appear to be justifying their attachment to his payroll. After waiting a decent length of time, I knocked on the glass of the window, without, however, distracting the rapt attention of any of the acolytes from their alleged labors. Taking out a pocket knife, I rapped more vigorously on the glass and got results.

• This is an encore in the debate published on pages 92 and 93 of the April issue, between a mill buyer and a salesman as to the traveling fraternity who call on the mills, their attitudes and the receptions they get.

The author swears that Old Man Grimshaw is taken bodily from life. We prefer to think of him, and his office methods, as representative of a type which is happily passing out of the picture . . . . . .

One of Mr. Grimshaw's stooges unfastened the lock on the window, slid it up and gave me a look of profound disapproval. Some of the other denizens had looked up in a hurt and startled manner when I had tapped on the glass, but had now gone back to their trance-like occupations over various books and forms. Seeing that the gentleman at the window was convinced that I was a big mistake, I opened the conversation:

"I would like to see Mr. Grimshaw."

"Does Mr. Grimshaw expect you?"

"No, but I would like to see him."

"You have no appointment with Mr. Grimshaw?"

"No."

"Well, Mr. Grimshaw never sees anyone without an appointment."

"Then how about making an appointment?"

"What did you want to see him about?"

Now mark well that the answer to this question is wholly irrelevant. It made not the slightest difference what I wanted to see him about, the conversation went on the same from here. I know that, because I have later compared notes with other salesmen. Anyway, I stated my business. The gentleman at the window shook his head positively and said:

"Mr. Grimshaw wouldn't see you about that."

"Well, then, whom should I see?"

"You might see Mr. Leadenpantz."

"Who is he?"

"The superintendent."

"Fine, I'll see him."

"He is in the mill now."

"When will he be out?"

"At twelve o'clock."

"Can I see him then?"

"No, he goes to lunch at twelve o'clock."

"What time does he get back?"

"One o'clock."

"How about seeing him then?"

"He always goes in the mill as soon as he gets back from lunch."

"When will he be out of the mill again?"

"He comes out at five o'clock."

"Can I see him then?"

"No, he goes home at five o'clock."

"Then when can I see him?"

"You can't see him."

I saw this was rapidly getting us nowhere, so I tried a different tack:

"How about the purchasing agent? Have you got one?"

"Yes. Let me have your card."

I handed him the card. He read the name; realized he had never heard of the firm or me and looked at me in pained and horrified surprise, much as a Papal Secretary of State might regard a representative of the Ku Klux Klan who had just asked to see the Pope on business. I returned his stare steadily, however, and he dubiously took the card over to one of the other occupants of the lamasery, where a whispered consultation must have taken place, or else the protective partition was soundproof, because no sound ever seemed to escape from the inner regions of the sanc-

tum. In a moment the gentleman returned and said with an air of absolute finality:

"We are not in the market today."

In my vast inexperience about how to handle a situation of this sort, I patiently urged on the gentleman that unless I could get to talk with somebody around the place they never would be in the market, and that it was quite understandable that they would not be in the market for something that they had never heard of, but maybe a conference with somebody in authority would help.

This was evidently a crushing blow. The man looked at me in utter helplessness. It was something that had never happened to him before, and being caught off balance, he gagged for awhile and then stammered some unintelligible remark. No doubt he was convinced that I was crazy and had no business barging in on the peaceful, monastic seclusion of this dump and upsetting the sacred routine. For a flitting moment he dubiously looked over toward the guarded entrance to Mr. Grimshaw's own private sarcophagus as if he felt certain that the old gentleman was rattling around in his shroud at the intrusion of any such irreverent and unorthodox visitor. Before the stooge at the window could fully pull himself together, I rocked him with another unanswerable question:

"Isn't there anybody around here that I can see?"

He stuttered again and said: "You might come back some other time," pulled the window down and was gone. I didn't stop to see what happened, but I'll bet they held a convention while he told the other inmates about this unheard of experience. The funny part about it was I went back to that mill several times and invariably went through this same rigmarole. To this day I have never been able to see anybody at that plant. It shut up shop some years ago, but up to the time it closed it was like Mecca or Lhassa; an impenetrable sanctuary denied the uninitiate. I never learned the secret of the joint and finally gave it up as a bad job, though for several years I did have a bit of curiosity as to whether Mr. Grimshaw really rattled in his shroud or not, and whether he would exhale a sort of musty aroma like a freshly exhumed mummy. I never found out.

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Callaway Mills Stenographers Receive Technical Training

By Eleanor H. Orr

An interesting and unusual course has been developed by the vocational school of the Callaway Mills, LaGrange, Ga., for stenographers of the organization to better acquaint them with terms and phrases used in the textile industry.

In lectures, by visits to the several plants of the organization and to the testing department, by actually running samples in the mill of the vocational school, and by an old-fashioned spelling bee, the group of young ladies who recently completed the course for stenographers learned the meaning of textile terms that are familiar to men with technical training and experience but that prove catches for the unitiated.

After completing the special course, offered for the second year, Callaway Mills stenographers write intelligently of Middling, tinges, stains, of good drag, knowing that these terms apply to cotton classing; of ramie, knowing that it is a vegetable fiber that blends successfully with both wool and silk; of nitrocellulose, cuprammonium viscose and acetate, knowing that they are synthetic fibers; of warp and woof, calenders, scutchers, sliver, knowing likewise that these terms concern the manufacture of cotton yarns and fabrics.

Stenographers of Callaway Mills, LaGrange, Ga., learn that crimp and shoddy are not beauty terms, but relate to textile manufacture . . .

The course for stenographers as developed and taught by A. U. Priester, Jr., superintendent of process development department, runs for a period of eleven weeks with classes held twice each week, each class session lasting one and one-half hours.

W. D. Stockton, vocational school supervisor, co-operated with the class instructor in developing the course.

The Callaway Mills vocational school, housed in a modern building that contains class rooms and a model mill equipped with up-to-date machinery for all the customary processes and operations, organized in 1934, offers courses in vocational training that includes actual training at the hands of practical textile men plus academic instruction by the regular staff of instructors. Classes are formed for persons seeking employment in a textile plant for the first time, called learners' classes and designed to eliminate the old hit and miss process of instruction in the plant itself, for operatives who wish to study the different phases of textile manufacture, for members of the sales departments and for stenographers to whom a knowledge of textile terms would prove highly valuable.

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Gastonia Plans Cotton Festival

Plans for an elaborate Cotton Week, June 11-18, to be the biggest event of its kind ever staged in Gastonia, N. C., were definitely formulated recently. Sponsored by the Young Men's Division of the Chamber of Commerce, Cotton Week was begun last year as an annual event. The theme of this year's celebration will be "The Transformation of the Cotton Blossom."

Strong Talk and Pleasure Feature the American Meeting at New Orleans

A PROGRAM of outstanding frankness in discussion of the industry's problems and matters affecting it, the largest attendance in 15 years, and delightful entertainment featured the 43rd annual convention of the American Cotton Manufacturers Association, at the Roosevelt Hotel, New Orleans, La., April 13-15.

The frankness started with an informal, off-the-record executive conference of mill men on Thursday, which itself succeeded an extended session of the board of governors of this organization comprising the executives of the southern cotton-textile mills. With this beginning, an attitude of realistic approach to discussion of the industry's ills, internal and external, pervaded the entire program, which included a "home-talent" session on Friday morning, with addresses on research, distribution, statistics and production control by prominent members of the association—and a strongly presented, frank and significant treatment of the industry's problems by the president of the association, John H. Cheatham, president of Georgia-Kincaid Mills, Griffin, Ga. The final session on Saturday morning was marked by two equally striking talks by guest speakers, and the adoption of the most forceful resolutions passed by the organization on matters of import within a decade.

Kemp Lewis is New President

Current developments within the industry, and political and economic trends affecting it from without, evidently combined with a happy selection of the program personnel to provide these unusually forceful and realistic expressions.

Kemp P. Lewis, president and treasurer, The Erwin Cotton Mills Co., Durham, N. C., was elevated to the presidency of the organization, succeeding Mr. Cheatham, at the annual business meeting on Saturday morning. (See biographical sketch of Mr. Lewis on page 55 of this issue of COTTON.) Robert West, president and treasurer, Riverside & Dan River Cotton Mills, Danville, Va., was made first vice-president succeeding Mr. Lewis; and Fred W. Symmes, of Greenville, S. C., president of Union-Buffalo Cotton Mills, Union, S. C., and other Carolina textile plants, was selected as second vice-president vice Mr. West. W. M. McLaurine, of Charlotte, was re-named as secretary-treasurer. Members elected to the board of governors included:

Norman E. Elsas, Fulton Bag & Cotton Mills, Atlanta, Ga.; James A. Chapman, Jr., Inman (S. C.) Mills; Herman Cone, Proximity Mfg. Co., Greensboro, N. C.; Ernest Rees, Elk Cotton Mills, Fayetteville, Tenn.; S. M. Beattie, Woodside Cotton Mills, Greenville, S. C.; and George M. Wright, Republic Cotton Mills, Great Falls, S. C.

Reflecting opinion expressed by several of the convention speakers and climaxing majority opinion of industry discussion, strong resolutions on subjects vitally affecting the industry were passed. Among these were:

Protest Against Export Subsidy

A protest against an export subsidy on cotton, on the contention that if bounties are to be paid, they should come to southern farmers and not to foreign spinners. It was urged that current cotton crops be permitted to flow into channels of trade and that farmers be paid direct benefits from the federal treasury to prevent cotton from going into the government loan. The resolution recommended that a maximum of 500,000 bales of the government load bales be released before January 31, 1940, at not less than 8.3 per pound, to avoid flooding the market.

Another resolution strongly urged amendment of the Fair Labor Standards Act, and took a stand against any change in the present 25 cent minimum wage rate prior to October, with recommendation that it then not exceed 30 cents an hour; that the 44-hour week be continued without overtime.

The association likewise took a strong position condemning the "unfairness" of the present National Labor Relations Board under the Wagner Act, and made specific recommendations for amendment of the Act itself to make it equitable to employers.

Another resolution requested national legislation for cotton trading on a net weight basis, and tariff action against jute, to encourage the use of cotton bagging for cotton bales; another urged rejection of the recommendation of the Textile Industry Committee No. 1 for a minimum wage of 32½ cents per hour for the industry; and another opposed the proposal of the Department of Agriculture by which federal graders would classify each bale of cotton at the gin, this classification to follow the bale through all channels of trade until consumed.

Only the highlights of the fullest convention program in years may be summarized in this report. At the opening session on Friday morning, four active mill men presented a symposium on vital industry problems: Fuller E. Callaway, Jr., Callaway Mills, LaGrange, Ga., on research; Robert West on statistics; B. B. Gossett, former president of the Association, and president of Chadwick-Hoskins Company and Gossett Mills, on production control; and W. N. Banks, president, Grantville (Ga.) Mills, on merchandising or distribution.

Callaway Wants $25,000,000 for Industry Research

Mr. Callaway cited the need of organized research by the industry, showing that cotton-textile manufacturing spends practically nothing on this essential element of progress in comparison with other, newer industries. He declared that if all the mills would pay an amount equal to 1 per cent of their net invoices, this would provide an annual fund of about $25,000,000 and that he stood ready to join such a program. Defining research in

In the Roosevelt Lobby. First picture, Mr. and Mrs. Norman Hope. Next are Julian and Grace Hightower, with Fred O. Tyler an interested observer. In the last group, George P. Swift is shown, with one arm around Harrison Hightower, shaking hands with Claudius Murchison. Goldthwaite H. Dorr is the last figure . . . . . .

Waiting for the Executive Session to Start. First group, among empty chairs, left to right: John A. Miller, Sam Steere and Dwight Wilhelm. In center picture, David Clark is seen asking and/or telling President John Cheatham something. The third group shows the new president, Kemp Lewis (filling pipe), leaning over to converse with, left to right, Scott Russell, Robert Henry, Ted Forbes and Norman Elsas . . . . . .

broad terms rather than as something mysterious conducted wholly in the laboratory, he cited as a possible field of research exploration the question of whether a mill should, as is now customary, pay its selling agent a percentage of the net value of the invoice, or pay the selling agent for his part of the job a percentage of the mill's net profit. He said that, "Certainly, one argument in favor of the selling agent sharing in the mill's losses and the mill's profits is that, if this were the case, the selling agent would probably not be so content to go along month after month, and even year after year, selling the mill's goods at a loss."

Ben Gossett Says: Abolish Third Shift

On production control, Mr. Gossett submitted a specific three-point program: 1, Organization of the industry into groups, such as the print cloth and combed yarn producers have set up, to effect control of machinery; 2, Elimination of approximately 3,000,000 marginal spindles under direction of a syndicate formed for the purpose; and, 3, limitation of the operation of the remaining spindles to a maximum of two 40-hour shifts. He showed how the industry's phenomenal physical growth had created an excess of approximately 4,000,000 spindles over the capacity required for current consumption; bearing in mind this does not allow for any third shift operation, which he termed "a vicious practice" that has contributed "more than anything else to the instability of the industry" and should be outlawed as the industry's Public Enemy No. 1.

"PHOTOS BY CALLAWAY"

FULLER E. CALLAWAY, Jr., president of Callaway Mills, of whose photographic talent and interest we have previously presented evidence, made exclusively for "Cotton" the several groups of candid camera shots of delegates at the New Orleans convention of the A. C. M. A. which accompany this report . . .

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He declared further that the spindle productivity of the industry, through modernization, had increased by 15 per cent during the past 11 years.

Mr. West urged a renewal of a program of industry statistics as guide posts of operation, and appealed for a more comprehensive and complete coverage of important factors in the preparation of these statistics.

"Sell at Profit", says William Banks

Speaking on the needs for improved merchandising by the industry, Mr. Banks declared that style, over-capacity, competition from without and within, and other developments had out-moded the merchandising practices that were successful for the industry back in the days when its greatest problem was to make deliveries, and urged greater attention to sound principles of selling and promotion. He strongly advocated a policy of "Never sell at a loss, always sell at a profit"; more attention to the training of young men for textile merchandising as well as for technical manufacturing; a wider utilization of newer forms of promotion.

George A. Sloan, former president of The Cotton-Textile Institute, was a surprise speaker, discussing his ideas as to a fair labor program for industry, urging amendment of the Wagner Act and more impartiality in the administration of the several laws pertaining to labor relations.

John H. Cheatham, association president, in his address attacked with force and vigor some of the outstanding problems of the industry. He declared himself in favor of a comprehensive statistical reporting service for the industry; on production control he advocated "one shift of 48 to 54 hours." As to merchandising, he declared that "this industry needs a Judge Landis to control production and put a price on our goods that will insure a fair return."

John Cheatham Speaks Forcefully

Turning next to outside influences on the industry, Mr. Cheatham, who for several years served as chairman of the association's jute committee, presented a comprehensive treatment of the problem of jute competition, advocating, in fairness to the American farmer and the American manufacturer, an adequate tariff on jute coming from foreign lands and produced by coolie labor.

The National Labor Relations Act, he said, could have worked fairly, but that "the administration of this act has been stacked with enough minds that really did not believe in the American principles of government to give its proper functioning a chance; in other words, it was sabotaged by its administrators before it got start-

Gay Parties at the New Orleans Banquet. From left to right, among those seen are Cason Callaway between Mrs. Cason Callaway and Mrs. Fuller Callaway; the next group includes Jarvis Cromwell and Mrs. Chip Robert; the gentleman asking for a dance is Robert E. Henry; at Ben Gossett's table are seen Charlie Yates, Mrs. Will Vereen, J. D. Robinson and others . . . . . .

ed. * * * Such partial and unfair administration has not only not benefited the cause of labor, but has done it incalculable harm. * * * It is exceedingly important that immediate steps be taken to amend the act so that the abuses of the past shall not again be possible."

Mr. Cheatham's remarks next on the Fair Labor Standards Act were especially significant in view of his membership on Industry Committee No. 1 under this act. He strongly declared it as his opinion that the act "was conceived in the minds of a continental school of thought, absolutely void of any appreciation of or regard for those fine and inherited principles of government that have brought the United States to greatness, and born and delivered under the auspices of political fear and sectional selfishness." He said the act, as the creation of professional uplifters, "was immediately seized upon by the politicians north of the Mason & Dixon line and passed in an effort to hamstring southern industry and draw the advantage back to their industries." He said he has been sadly disappointed in the administration of the act, and that "in the appointment of Industry Committee No. 1, it was stacked in line with the sectional and selfish motives which enabled it to be passed."

He reviewed the history of the act in its application to the textile industry, showing that although 75 per cent of the spindles are in the South, this section has representation of only 7 people on the committee of 21. "I contend that the minimum wage was fixed last September 13 when the committee was appointed, and not on March 20 as you have been advised. Such treatment has no semblance of fairness, decency, or even common honesty, in a country which shouts of its democracy." He declared that this and other administration activities lead him to the conclusion that they are an "apparently covert and planned procedure to gradually destroy the sovereignty of our states in factor of a government centralized at Washington. I do not believe that this is what the majority of the American people want, but, if it is, the honest way is to present it to them by constitutional amendment and not by hidden trickery in statutes."

Murchison on Cotton Surplus

Two guest speakers discussed, at the Saturday morning session, the subject of the current government cotton holdings and the need for an intelligent program for cotton, and general economic trends affecting the industry in the years that lie ahead. Claudius T. Murchison, president, The Cotton-Textile Institute, speaking on the subject, "Industry Takes a Hand in the Cotton Crisis", declared that the cotton problem is no longer purely agricultural nor sectional. He declared that:

1. Cotton should be permitted to find its own natural competitive price level in accord with economic law.
2. No further expansion of government loan cotton should be permitted.
3. The present excessive loan stocks should be reduced by gradual and orderly liquidation through the normal channels of trade and in a way which will not abruptly or unduly impair world market prices.

Dr. Murchison declared that all groups, whose major interest is cotton, including the farmers, are agreed on these principles. He said the government's loan policy had diverted export trade from American cotton to foreign growths, had created an unfavorable price disparity, destroyed market confidence and created the largest surplus in history. The then prevailing administration plan of an export subsidy he termed as "probably the most indefensible that has ever originated from a responsible American source", "a humiliating repudiation of our foreign policy about which we have so pridefully boasted for the past five years." He declared that the original Smith cotton bill embodied the sound principles that the industry broadly advocates, and that from a cost standpoint, "the only important difference between the Smith plan and the subsidy plan is that in the one case we pay the money to our farmers and in the other to foreign spinners." Compensation benefits for the farmer, whether in the form of direct payment at the time he sells his cotton or any other form should not serve as an artificial inducement to withhold his crop from normal marketing channels or divert it into government loan stocks at a rate in excess of the going market price.

Robert Strickland, president of the Trust Company of Georgia, Atlanta, appeared on the program, discussing economic trends of the next 10 years affecting industry. He reviewed recent developments indicating no apparent genuine appeasement between government and business, defended the American business system, and called upon it to get its house in order, and tell the public of its needs and its accomplishments, and participate more actively in the selection of legislative representatives and lend every effort to the broader education of the public as to the facts of industry and industrial life.

With so serious and significant a business program, the amenities

Two Machinery-Salesmen Stags at Dance. Top row, Walter Mitchell is watching Dwight Wilhelm and Jane Cagle, Mildred Barnwell and partner, and George Miller and friend. Bottom row, Murray Keeler is watching an animated conversation. Harrison Hightower and Will Vereen are among the others in this row . . . . . .

Among Those at the Speakers' Table, left to right: Charlie Yates, Alden McLellan, Claudius Murchison, Robert West, William Banks, Ray Bell, President John Cheatham, Robert Strickland, and George Sloan

and social phases were by no means neglected at the New Orleans meeting. A two-day golf tournament, conducted for the members by Charles R. Yates, of the First National Bank of Atlanta, British amateur golf champion, provided relaxation and enjoyment for many. Through the courtesy of the Myles Salt Company, Ltd., of New Orleans, the ladies attending the convention enjoyed a trip to the old French Quarter, and a tea, on Friday afternoon, and joined the delegates in the annual banquet held on Friday evening, where there were no serious speeches, but mainly dancing and other entertainment. Fuller E. Callaway, Jr., on behalf of the association, presented a sterling silver coffee service to retiring president Cheatham.

New Orleans is always a delightful and inspiring convention city, and everyone who attended had a good time. More important and significant, the character of the program, its timeliness, and the courage and realism of the speakers, all combined to make it a complete success and an occasion which may become epochal in the industry's history.

TWOC Loses in Second Effort of NLRB to Establish It as Bargaining Agency in Eagle & Phenix Mills

On February 2, 1938, an employee representation election held by the National Labor Relations Board amon gthe employees of Eagle & Phenix Mills, Columbus, Ga., resulted in a vote of 537 for the TWOC and 1,168 against the TWOC. For reasons best known to themselves, the Board set that election aside, and ordered a second election, after more than a year. The second election, held on April 14, 1939, resulted in a vote of 728 for the TWOC and 752 against.

What will be done in the face of these two rebuffs is unpredictable, but any fair-minded observer will agree that this mill and its employees are now entitled to relief from such high-handed outside interference.

Members of the industry generally will be interested in the following editorial taken from the Columbus *Enquirer-Ledger* of April 16. It presents a fair review of the facts, and reflects generally an interested public viewpoint on the case.

The editorial follows in part:

Significance of Friday's Election

"The results of Friday's selection at the Eagle & Phenix Mills here, in which employees voted against selecting the Textile Workers' Organizing Committee, an affiliate of the C.I.O., as their agent in collective bargaining with the mill management, are definite and conclusive.

"It was the second time that a majority of the workers of the mill have turned down the proffer of the Textile Workers' Organizing Committee to become their bargaining agent and this voice, twice given through the medium of the ballot, suffices to reflect the sentiment of the textile workers, not only at the Eagle and Pmenix Mills but at others in Columbus and vicinity.

"Practically all of the employees of the Eagle and Phenix Mills and those at other industrial plants in Columbus are native born Georgians and Alabamians, who dislike outside interference in transacting their affairs, and this to be sure has been most emphatically emphasized in two majority votes at the mill.

"As a matter of fact, workers of the textile mills here do not need to select an agent, local or foreign, to bargain for them with the mill management. The wage-and-hour law, enacted by the congress, makes ample provisions for the protection of workers. It sets the maximum hours and minimum wages of workers and provides for the setting up of an authority to see that these provisions are met and observed.

"The operators are protected by federal statute. They have the recourse of it and they need not pay tribute to an organization as radical and disturbing as the C.I.O. and its affiliate, the Textile Workers' Organizing Committee, to represent them—to duplicate what the government, by statute, has decreed shall be done for them.

"Such elections as the one held Friday, therefore, are superfluous. They are unnecessary, unwarranted and as a rule unfair. Nothing more can be accomplished through the setting up of a bargaining agent than the government says shall be done under the far-reaching provisions of the wage-and-hour law, and it is a misnomer that the TWOC, or any other bargaining agent, can do more for the workers.

"The unfairness in such methods of selecting a bargaining agent was manifest in the election. The TWOC, the aggressor in the action, had virtually limitless resources at its command to influence votes in its behalf, whereas the mill management, we are told, could offer not a single word of encouragement to its employees without inviting charges of intimidating them.

"Representatives of the TWOC, who were active in appealing for votes for the cause prior to the election, were seated at the voting booths as observers, and representatives of the organization paraded the streets in front of the mill carrying placards appealing for votes in behalf of the TWOC, yet this will not be considered cause for charges of intimidation.

"However, had the mill management offered the slightest suggestion to the workers as to how they might have voted, this would have been cause for charges of intimidation and perhaps coercion and therein lies the unfairness in the machinery set-up for conducting elections of this nature—the proffered bargaining agent has unlimited means of procuring votes by innuendo, and the mills have none.

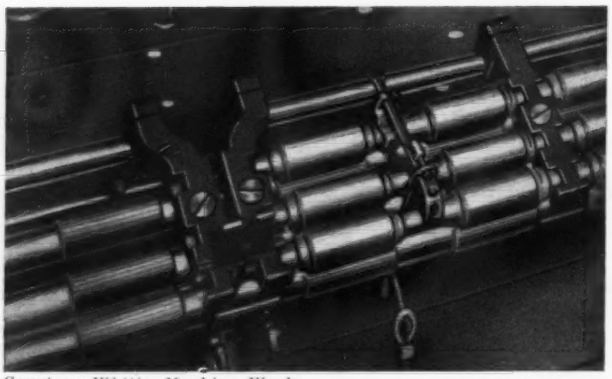
"Those, therefore, who went to the polls and cast their ballots unintimidated, unencumbered and unbiased, reflected most forcefully the will of the majority of the mill and radiated their confidence in the sincerity of those by whom they are employed.

"They exercised their inalienable right to free expression, freedom of action and to vote as their consciences dictated, adhering to the democratic principles of being governed by the will of a majority of free and untrammeled people."

SPINNING ROOM PRACTICE

By Horace L. Pratt

Article 3



Courtesy Whitin Machine Works

Fig. 1

BEING the third in a series of articles, this one takes up the drawing rolls and their important part in making yarn. In connection with the rolls, the various types are discussed, their covering, and care. For technical operation the author presents methods of setting and lubrication. The first article appeared in the March issue and was of a general nature; the second appeared in the April issue and covered the various types of long draft spinning. The next installment will be a study of rings and travelers.—The Editors.

THE DRAWING ROLLS have been called by some the heart of the spinning frame. Be that as it may the rolls *do* play a most important part in the making of yarn, so it is very necessary that the section man have a thorough understanding of the operation and care of these rolls, as well as how to make the adjustments essential to the best results.

Fig. 1 shows a section of rolls of a conventional spinning frame. One line of top rolls has been removed to show the bottom rolls. These bottom rolls are made of steel, either crucible or case hardened, and are made in sections. The sections are suitably joined together to make essentially one roll running the entire length of the frame. On conventional spinning there are three lines of these rolls. In some of the long draft systems there are also three lines of steel rolls while in other systems there are four lines of rolls. [See article 2, page 97 of the April issue.] The section of the roll over which the yarn runs is slightly larger than the rest of the roll and is fluted longitudinally. This part of the roll is called the boss. These rolls are positively driven by suitable gearing in the head end of the frame and by means of gears on the ends of the rolls.

The top rolls are usually made of iron and the bosses are covered with materials that tend to act as cushions to prevent damage to the fibers as they pass between the top and bottom rolls. They are usually in units of two rolls each and are weighted in a manner similar to that shown in Fig. 2. This permits their being driven by frictional contact with the positively driven bottom rolls and at the same time to grip the fibers aiding in regular and even drafting.

Solid versus Shell Rolls

While there are several types of top rolls in use, probably the more common types are the shell roll and the solid roll. The shell roll shown at the right in Fig. 3a, and held by hand in Fig. 3b, consists of an arbor, or spindle, on which are mounted the two covered bosses or shells. In operation the arbor is held stationary by the saddle and the shells revolve. These rolls are usually used, in conventional spinning, on the front line or the delivery rolls.

Solid rolls, shown at left in Fig. 3a and beneath the shell roll in Fig. 3b, consist of two solid covered bosses with bearing points at the ends and in the middle. These rolls are usually, in conventional spinning, for the middle and back lines. However in many mills all three lines of top rolls are of the solid type. This has two advantages, first, there will be only one type of roll to handle and to have re-covered; and second, a roll that may become damaged or worn slightly and will not do for the delivery roll may be entirely suitable for the middle or back lines, so may be moved toward the back, and the older and more badly worn back roll may be taken out and re-covered.

Doubtless we could easily get into an argument on the subject, especially with some of our English friends, but the way we see it the advantages claimed for shell rolls are more than off-set by their greater cost and by the extra attention that they require in the way of lubrication. It is held that as each shell is an individual unit and that as there is likely to be slight differences in the size of the two bosses or in the thickness of the covering of the rolls, the shell rolls will not "fight" against each other as would be the case with the solid rolls with the bosses varying slightly in diameter. We wish that we could say more in favor of this type of roll but from personal experience we know that the lubrication of shell rolls can only be done properly by stopping the frame, removing the saddles and taking the rolls from the arbors, cleaning the chokes that have accumulated, and putting some oil on the arbors. Of course a drop or two of oil put at each end of the arbor where it *may* run into the shell will help some, but we are inclined to believe in the average mill using shell rolls this is

about the only lubrication that the shell rolls get except twice a year when the rolls are removed for the scouring of the steel rolls.

While it is well for the section man to know all possible about the various roll coverings and how they are applied, we do not believe that it is the general practice for mills to do their own roll covering, or if this is done at the mill it is usually handled by a separate department, so we will, for the present at least confine our discussion to the installation, handling and setting of rolls.

The section man is of course not charged with the responsibility of deciding which roll covering is best. True he usually runs the tests, and he doubtless has his own opinions, but after all someone else finally decides whether the mill will buy cork, leather or one of the various synthetic roll coverings. For some time efforts have been made to produce a satisfactory covering that will supplant the higher priced leather covering. As leather is a natural product and the conditions of growth are so varied, absolute uniformity could not be expected. With a product made under ideal conditions, the various steps in the manufacture of which are controlled, one might expect a uniform roll covering. On the other hand certain leathers, especially calf-skin, are so well suited for covering drawing rolls because of its natural properties of strength and resilience, making a long-lasting cushion for the fibers as they are being drafting by the rolls, that it has been exceedingly difficult to find satisfactory substitutes. It is not for us to say whether this has been accomplished, but it is very obvious that mill men themselves do not agree on this subject, and it is not uncommon to find more than one kind of roll covering being used in the same spinning room.

Whatever the roll covering that the mill decides to use the section man's responsibility begins when the rolls are received in the spinning room and he stores some of them in his work bench. Regardless of the kind of roll covering, whether synthetic, cork or leather, the cost will be plenty, and not even considering the item of expense the greatest care should be exercised in the handling of covered rolls to prevent damage as defective yarn will likely result from the use of damaged rolls.

For storing shell rolls a box may be provided with several rows of pegs. The shell rolls are just slipped right over the pegs which are so arranged that the

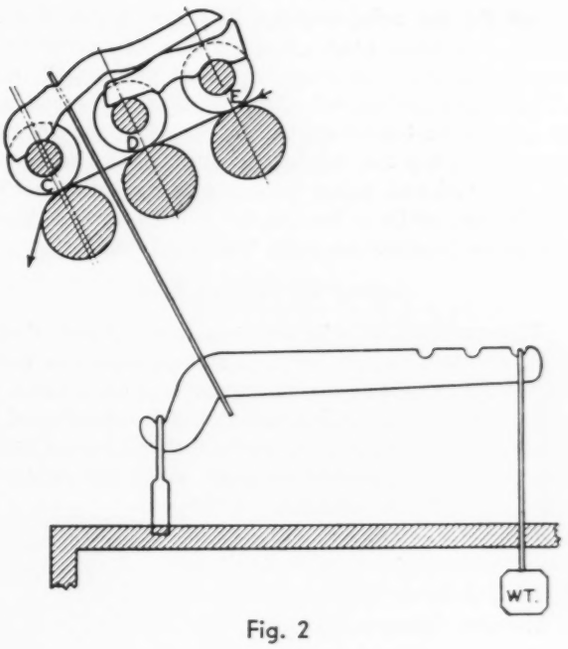


Fig. 2

shells do not touch each other. This has been found to be a very effective way of storing this type of roll. It is customary to store the solid rolls on end for if they are laid on the sides the weight of the rolls stacked on each other would cause flat places. Not only should the rolls be stored properly but they should be handled carefully to prevent damage of any kind.

The bearings for the rolls, known as the roll stands, are made at an angle of around 30 degrees, instead of being parallel with the roll beam. This is necessary to allow the twist to run right up to the bite of the rolls, otherwise the strain of the traveler pull would break the fragile ribbon of fibers just leaving the rolls. The front roll bearing is stationary, while the middle and back rolls (of conventional spinning) run in an adjustable slide. While the middle and the back rolls cannot be adjusted as to the distance from each other, on many frames, the slide permits their being adjusted to the front roll. This setting is necessary, especially with conventional spinning, when any appreciable change is made in the length of the staple being run.

The top rolls are held in position by notched blocks, called nebs that fit on the cap bars. These are also capable of being adjusted. The ends of the top rolls

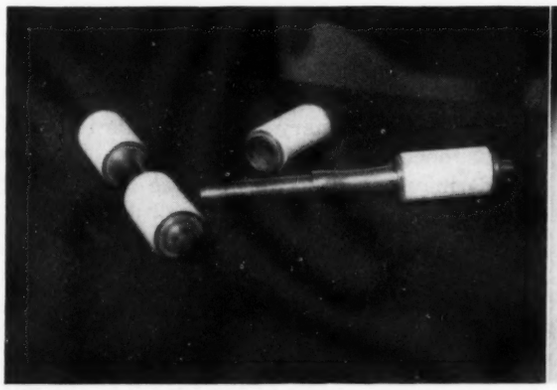


Fig. 3a

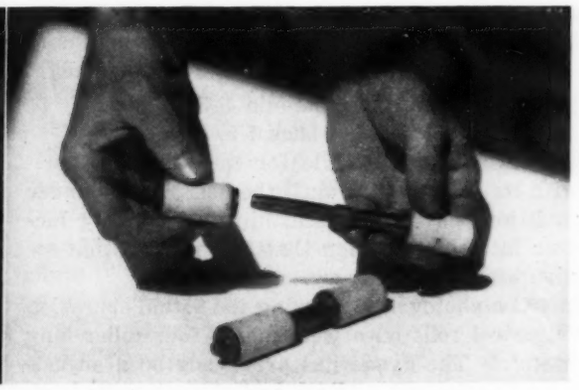


Fig. 3b

do not fit the nebs exactly, in other words there is room for a little play. Some spinning overseers set their front top rolls slightly "front of center" in relation to the bottom roll, claiming that if the roll were set exactly on top of the steel roll, when the frame is stopped the top roll might fall slightly to the back of the steel roll and would probably damage the stock in starting up, while if the top roll is set forward the roll will be in position to start turning immediately.

Setting the Drafting Rolls

The question of roll settings is a subject that is much discussed wherever mill men gather. In recent years mill men have begun to realize that correct roll settings are almost as important as the selection of the right quality and staple of cotton. A very good article along this line appeared on page 15 of the July 1932 issue of COTTON entitled, "Influence of Mechanical Adjustments on the Spinning Quality of Cotton", by H. H. Willis, of the textile school of Clemson College.

The length of staple in any given lot of cotton varies so much that at best the roll settings are just the results of a compromise. A lot of cotton classed as 1-inch might range in staple from 3/16-inch to 1 5/16-inch. While the percentage of fibers measuring these extremes might not be large yet their presence would affect the running quality of the cotton. All other things being equal the slower the speed of the rolls the closer the settings of the rolls; the smaller the bulk of the stock passing through the rolls the closer the settings. So far as the long fibers are concerned it would be better to ascertain the longest fibers in the lot of cotton and then set the rolls from 1/32 to 1/16-inch more than the staple length. This, however, would leave the extremely short fibers without any effective control. The question then arises as to a setting that will not damage any appreciable number of long fibers and at the same time allow the rolls to exercise some degree of control over the shorter fibers.

Fig. 4

Photo made by Robert Rearden, Shawmut Mill (Ala.) Division of West Point Manufacturing Company.

An example of a very effective setting for 1-inch cotton, on conventional frames is as follows:

Bottom rolls:	Front to middle 1 1/32-inch.
	Middle to back 1 1/4-inch (fixed).
Top rolls:	Front to middle 1 3/32-inch.
	Middle to back 1 5/16-inch.

We believe it worth while for the mill to experiment with its roll settings until the best results under local conditions have been ascertained. So many factors enter into this question that any figures that we could give would be arbitrary.

Fig. 4 is a photograph showing the actual operation of setting steel rolls on a well known four-roller long draft system. The gauge has previously been adjusted to give the desired setting, and the top rolls have been removed out of the way. The section man loosens the slides supporting the steel rolls, as shown in the photo, adjusts the rolls to the gauge then tightens the slides. After the setting on one side has been completed, he checks at each roll stand to be sure there is no binding on the gauge. The final check is made when the frame is started, for in the last analysis the success or failure of the setting is determined by whether the rolls turn freely and by the quality of the yarn produced by the frame. If the setting has been made too close cockled yarn will result; if too wide the yarn will probably be weak and irregular. It has been found that by experimenting with the roll settings it has been possible to increase the breaking strength of the yarn as much as five per cent.

While the photograph, to which we have just referred, was made to illustrate the setting of the steel rolls of a long draft frame, the procedure in setting the steel rolls of conventional frames is very similar and the information given in the foregoing paragraph applies equally to either type of frame.

The top rolls are set by means of a special *neb gauge*, not illustrated here. The nebs are loosened and the gauge, which has been adjusted to the proper setting, is inserted in the recesses where the arbors work, then the nebs are tightened on the cap bars.

Oiling the Drafting Rolls

The oiling of the rolls is most important, and we use the term "oiling" to include the oil, the oiler and the container as well as the actual application of the oil. This is one subject on which we hesitate to write, for at one time the author was an oiler in the spinning room, and thinking back over the experience he wonders if he were as conscientious as he should have been.

Because of the danger of getting oil on the yarn and on the roll covering it is customary to use a good grade of compounded oil on the roll bearings. And for the same reason a special oil can is commonly used. This is a small can, easily carried in the hand, and with a short spout, beveled at the end. While the oiling is not usually the section man's job, he will keep a watchful eye upon the oiler, especially until he has been thoroughly trained, for it is so easy, by a little carelessness, to ruin much yarn as well as to get oil on the roll coverings, which is very detrimental to them. It is customary in many mills to oil the front stands once each shift. The middle and back roll stands may be oiled two or three times weekly.

The type of saddle in common use on conventional frames has only very small bearing surfaces, with practically nothing to retain the oil. For this reason a kind of wick is put in the curved upper side of the saddle and into the oil holes to retain the oil and feed it to the rolls as needed. It is the general practice to oil this type of saddle at the time that the middle and back stands are oiled. At the same time a drop of oil

will be put on the ends of the arbors where they fit into the nebs. (The oiling of shell rolls has already been discussed in a preceding paragraph.)

Saddles made of wood that has been soaked in oil or of some material which does not require oiling are on the market. According to the manufacturer, the use of these saddles not only does away with the oiling but in doing so improves the quality of the yarn. We have also seen the steel roll stands equipped with felt wicks for retaining the oil thus eliminating the necessity for oiling these stands so often.

Cleaning rolls, commonly spoken of as picking rolls, is essential to good running work and to the service that the rolls will give before having to be discarded. On conventional frames, on medium counts spun from a fairly good grade of cotton, the rolls will be picked once each day of 16 hours. (If cleaners are employed they will do this work, though in some mills the spinners pick the rolls.) On long draft frames making coarse numbers of very low grade stock it will probably be necessary to pick the rolls once each shift of 8 hours. As the top clearers will have to be removed in order to pick the rolls, the clearers will be picked at the same time. In this connection it will be noted that the clearer waste, containing as it does, short fibers, has some value and is saved, while the waste that is picked from the ends of the rolls is usually greasy so is thrown on the floor and goes in with the sweeps.

Once each shift the spinners or the cleaners will pick the front roll stands with their fingers then about once a week a brass stand hook will be used to clean all of the chokes from around the roll stands. Especial care should be exercised to prevent damage to the covered rolls by the hook. It will be noted that this hook is made of brass. This prevents damage to the steel rolls which are much harder than the hook. Occasionally a spinner will get someone to make her a steel hook, which admittedly works better than the softer brass hook but may injure the steel rolls, so it will be well for the section man to keep his eye open for this practice.

The use of thread waste should never be allowed around moving rolls, shafting, gears or pulleys. For example in "wiping the steel rolls", which is done each shift, a handful of card strippings is very satisfactory. Many spinners will use clean roving waste, but this practice should be discouraged. Each section man should keep a small amount of card strippings on hand for the use of the spinners and doffers.

Referring again to Fig. 2, which shows one method of weighting rolls, it will be seen that a short saddle fits over the back and the middle rolls while a longer saddle reaches from the front roll to a point on the back saddle about half way between the middle and the back rolls, the stirrup fitting at a point near the front roll. This method puts the maximum pressure on the front roll, with a lesser amount distributed between the middle and the back rolls.

In running long staple cotton, in the production of fine yarns, or medium fine yarns, on conventional frames, a self-weighted middle roll is sometimes used. This roll may be of wood, or it may be a steel or iron roll. The regular covered rolls are sometimes run this way, without weights. With rolls of these types it is possible to move the back saddle directly over the back roll then the back end of the front, or long saddle will rest directly over the center of the back saddle. The front roll will still receive the maximum pressure, with a lesser amount on the back roll and none at all on the middle roll. This permits a closer setting of the middle to the front roll, thus controlling the short fibers while the longer fibers will tend to slip between the middle rolls without breaking.

One of the main objections to this type of weighting for coarser yarns is that the heavier strand of roving needs to be "opened up", so to speak, and with the unweighted middle roll there is not the effective "break draft" that occurs between the back and the middle roll when all of the rolls are weighted. In fact some of the long draft systems were developed by the simple expedient of retaining the weighted middle and back rolls, to secure the break draft and the addition of a fourth line of rolls, the top roll of which is not weighted and can be set fairly close to the front roll. The addition of a carrier apron is the distinguishing feature of one well-known make of long draft frames.

We have already mentioned some of the defects caused by improper roll settings, cockled, weak and uneven yarn. Perhaps the worse defect is ends down, causing loss of production, knots, and flyings in the ends next to the one down. Loose cots, fluted rolls, grooved rolls, rough places will all cause ends to come down. Sometimes an end will come down and a rough place on the front roll will catch the roving causing it to lap up on the roll instead of on the clearer. When this occurs this roll should be examined for possible injury as it will doubtless be economy to replace it.

Sometimes spinners will get rolls from the work bench and replace their own rolls. While this might seem to be a help to the section man it is not a very good practice to encourage for the spinner might put the roll in with the lap running the wrong way or she might not get the stirrup in the right place, thus changing the weight on that particular line of rolls. The overseer should insist that no one except the section man replace any rolls on the spinning frame.

The steel bottom rolls, while they do not require so much attention as the top rolls, should be examined and cleaned periodically. This will be taken up in more detail under the subject of overhauling.

In discussing rolls it is difficult to separate this topic from that of clearers. The reader is probably familiar with all types, the regular top clearer with the strips of flannel resting on the top rolls, the revolving top clearers and the revolving bottom clearers, covered with cotton cloth or sometimes paper, to make them easy to clean. With certain types of synthetic rolls, and with long draft it is necessary to pick the top clearers more often than would be necessary with leather rolls on conventional frames, for if this is not done "eyebrows" will form over the front roll and some of this waste will soon find its way into the yarn.

It is important that the roving traverse function properly otherwise some bad spinning will soon result. The traverse should be set for the longest stroke possible; this guides the roving over the greater part of

(Continued on page 118)

Georgia Men Study Good Foremanship

Record attendance of 1,400 mill men hear Quigley, Bradshaw, Reiland and Rogers discuss human relationships in industry

BY FAR the largest attendance of textile operating executives ever to assemble in the South participated in the spring meeting of the Textile Operating Executives of Georgia, held in the new Gymnasium-Auditorium, at Georgia Tech, in Atlanta, on Saturday morning, March 11. Conservative estimates placed the attendance at between 1,300 and 1,400 people, practically all of them associated with the textile industry of Georgia and neighboring states.

The attraction which produced this unprecedented attendance was that the meeting was devoted to a discussion of Good Foremanship; human and industrial relations, with speakers of national prominence. This association, composed of the superintendents, department heads and other operating executives of the Georgia mills, has, since its formation in 1922, devoted semi-annual meetings in Atlanta to the discussion of practical mill problems on carding, spinning, weaving, etc. In view of the vital importance of the human factor in industry, and the availability of the speakers on this subject, the executive committee decided to depart this time from technical discussions, to emphasize and stimulate thinking upon the essentials of good foremanship and good leadership.

Allen Jones, superintendent of the Muscogee Mfg. Co., Columbus, Ga., presided as general chairman of the organization, turning the meeting over to Thomas H. Quigley, professor of industrial education at Georgia Tech, who is in charge of night schools and vocational training in the state, who served as chairman of the symposium. The speakers presented by Professor Quigley were: Grady Bradshaw, scout executive of West Point, Ga.; Dr. Karl Reiland, retired minister, for 25 years rector of St. George's Episcopal Church of New York City, and now a part-time resident of Georgia, at Lindale; and Sherman Rogers, of New York City, one-time lumberjack, formerly associate editor of *The Outlook* and *Liberty*, and now a consultant on public and industrial relations.

Each of these speakers, along with Chairman Quigley, spoke on the general subject of human relations and the essentials of good foremanship; each approached the subject from a different angle, all stressing the importance of better understanding between employer and employee as human beings in their daily relationships. Time did not permit the customary round-table discussion by those present, the program being composed entirely of the remarks of the four speakers. The character of these addresses, and their extent, precludes adequate summarization in a brief report. A stenographic record was taken of the entire proceedings which has been put into a convenient booklet and is available from the association office in Atlanta.*

One of the speakers, Sherman Rogers, is the author of a booklet, "Foremen: Leaders or Drivers?"** to which frequent reference was made. Mr. Rogers devoted considerable time to a discussion of the distribution of the national income, quoting from a government publication*** to demonstrate that of all of the true national income, more than 84 per cent is paid out in the form of wages and salaries.

The unanticipated attendance defied complete registration by the secretary. Normally, these meetings attract between 350 and 400 people, and the unprecedented influx of about 1,000 additional delegates swamped the facilities for registration. There were 778 registration cards collected, and the secretary's office made an analytical break-down according to mill position, etc., which is presented in the accompanying box.

ANALYSIS OF ATTENDANCE AT GOOD FOREMANSHIP MEETING OF TEXTILE OPERATING EXECUTIVES OF GEORGIA, ATLANTA, MARCH 11, 1939.

Covers only 778 registration cards turned in; does not include about 600 others in attendance . .

Personnel Directors, Employment Managers	10
Mill Office Men	18
Mill Treasurers	1
Agents	5
General Managers	6
General Superintendents and Superintendents	60
Assistant Superintendents	18
Overseers and Shift Foremen	244
Assistant Overseers, Second-hands	134
Section Men, Fixers, Overhaulers, Card Grinders, Etc.	108
Mill and Textile School Teachers and Ministers	22
Miscellaneous and Unclassified Mill Men, including time-study men, storekeepers, doffers, weavers, frame hands, textile students, etc.	101
Visitors unclassified, salesmen, etc.	51
TOTAL REGISTRATION	778

Longley Added to Executive Committee

In a brief business period, Julian M. Longley, agent of The American Thread Company, Dalton, Ga., was elected to a 2½-year term on the organization's executive committee, succeeding R. S. Steele, whose term expired at this meeting. J. C. Platt, agent, Chicopee Mfg. Corp., Gainesville, Ga., is vice general chairman of the organization; and Robert W. Philip, editor of COTTON, Atlanta, Ga., is secretary-treasurer.

Before the decision to devote this meeting to foremanship the secretary had already solicited from Georgia mills questions for discussion on carding and spinning topics. When these were to be discarded in favor of the theme of foremanship, the editorial department of COTTON submitted them to several southern mill superintendents, and an interesting summary of their replies on these practical mill subjects has been prepared and is presented on page 69 of this issue of COTTON.

*Copies of this pamphlet, containing the stenographic transcript of the March 11 meeting in full, are available, at 25 cents per copy, from Textile Operating Executives of Georgia, 1020 Grant Bldg., Atlanta, Ga. Handling of orders will be simplified if remittance accompanies orders.

**Mr. Rogers' book, "Foremen: Leaders or Drivers?" is available at $1.00 per copy, from Sherman Rogers, Hotel Imperial, New York City.

***The government publication referred to by Mr. Rogers is a 305-page book, "National Income in the United States: 1929-1935". Copies are available from Superintendent of Documents, Government Printing Office, Washington, D. C., at 25 cents per copy. Be sure to request the 305-page book, as there is a small pamphlet carrying a similar title.

"Nine Old Textile Men" Discuss Picking and Card Room Problems

THE FOLLOWING STORY is a compilation of answers received from the operating executives of nine large southern textile mills, upon the request of the editors of COTTON. The original questions*, which it is not necessary to repeat verbatim, show the trend of thought in the operating of a textile plant today. The answers to them show practice in successfully operated mills. As the answers of necessity have been stated briefly, if there are questions concerning any particular phase of operations discussed, further information will be provided upon inquiry.

The number before each answer is the identification of a certain mill's answer. Thus No. 3 is the same mill in each instance, though the answer to the question may have been omitted in certain cases.

Opening and Picking

Using Flat Bales and Compressed Bales.—1. Better to use flat bales in separate lots instead of mixing with compress bales. Remove bands and burlap from compress bales and let stand six hours before processing.

2. Line one bale of compress and two flat bales behind openers and feed them. In this way weight will be more uniform and cotton worked better.

3. Run flat and compressed bales separately. Allow bales to age as long as possible after opening.

4. Open compressed bales and run through No. 4 bale breaker or similar machine; then let lay and expand for 24 hours before running in opening and picking. Carefully mix this stock with flat cotton. Our opening room layout: No. 4 bale breaker, 2 Centrif-Air machines in tandem, condenser, porcupine beater, condenser, mixing apron, condenser, storage bin, feeding hopper, condenser, distributor to pickers. Pickers are single-process with two beaters and two hoppers all connected.

6. We have six machines in line and put down one flat and one compressed bale and feed to all machines.

8. Cotton is put down 15 bales to a mix. Small strips are taken from each bale and torn in two and fed to Lummus blender, then through bale breaker, then to tandem hopper, through Buckley beater, to vertical opener, Centrif-Air machine, to picker.

9. Have some type of blending arrangement to loosen and fluff up compressed bale. Feed the cotton alternately from flat and compressed bales. Advisable to permit compressed bales to stand after being opened. Machines in line are bale breakers, vertical openers, Gyrators, and pickers. If compressed cotton is not loosened, hard bunches of cotton will go into pickers and their effect can be traced through the entire mill.

System for Checking Picker Room Machinery.—2. Schedule certain number of machines daily to be inspected. Be on lookout at all times for things to cause bad, uneven laps, such as dust flues, chokes, etc.

3. Inspect machines after plant is closed for week-end. All caps should be left open.

4. Operation of picker depends on care given it, especially cleaning and oiling. We have a surplus of one line of pickers and can keep one line torn down and in process of being cleaned and repaired at all times. Dirt and grease are removed, mechanism attached to eveners is kept in proper balance and working freely, logger heads are cleaned once a week, all leathers around screens and screens themselves and air passages are checked when picker is down and cotton out of it. All parts inspected when machine is torn down.

5. Check machinery in conjunction with regular cleaning and lubricating schedule.

6. The machine builders' systems are good.

7. Have section man check machinery every week-end when machinery is stopped and cleaned.

8. Overhaul one picker each month and have fixer check pickers once a week.

9. On week-end leave beater and screen hoods open, mote boxes pulled out, and doors open; let overseer inspect.

Return Air Draft in Picker Room.—3. Concerning uniform lap, there is not much difference from foot to foot when using return air draft, but is improvement from day to day, particularly, if humidifier controls in picker room.

4. This return air draft is hobby of ours as it originated with us. We keep a more uniform regain and more uniform condition throughout laps with it than before we used it.

9. Return air draft in picker room enables one to cut fan speed 20 per cent and proves effective. Uniformity of lap is maintained. Experience is based on use of clean cotton.

Oil Spray on Dyed and Undyed Cotton.—1. Have tried on all cottons but now restrict use of oil spray to dyed cotton. Not advantageous for grey cotton but valuable in preparing colored cotton for later processes.

2. Should be used on dyed cottons if possible. Get a much cleaner stock on grey cotton without oil spray.

3. Better results are obtained with oil spray on both dyed and undyed cottons.

4. We use one-tenth of one per cent oil spray in cotton, put in at No. 4 bale breaker. Decreases the amount of dust and fly in following processes.

5. and 6. Use on both dyed and undyed cottons.

7. No experience on colored work, but find it is good advantage to use oil spray on undyed cotton as it eliminates most of fly in card room.

8. We use on undyed stock. Only difference we see is that we have less dirt around our cards.

9. Advisable to use oil spray on dyed and un-

*When planning the discussion meeting of the Textile Operating Executives of Georgia, usually devoted to practical problems in the textile mill, it is customary to give each plant in the organization the privilege of submitting as many questions as it is interested in seeing discussed at the forthcoming meeting. From the many questions that are sent in by the mills, many of which are often duplicates, the executive committee of the organization selects the questions that will be most helpful and apply to the general run of plants within the group.

At the last meeting of this organization, March 11, the technical discussions were dispensed with and the subject of "Good Foremanship" and "Human Relations" was studied, through the medium of four forceful and well-versed speakers. A report of this meeting appears on page 68 of this issue.

The questions for technical discussion had already been sent in to the executive committee, 56 of them, and so as not to disappoint anyone that had a question to be discussed, COTTON took the opportunity of requesting nine mill executives in the South to discuss the questions for the benefit of all. The answers to these questions is your story.

dyed cotton. Dyed cotton upon being placed in drying machine has natural oils cooked out of fibers; oil spray replaces it. Decrease in fly offsets the cost of the oil.

Regain Indicator in Picker Room.—2. Regain indicator registers higher at night than in day, unless is raining or unusually damp outside. When indicator shows heavy the laps are weighed heavier.

3. We find no considerable difference in the registering of the indicator at night and day.

4. We find that regain indicators get out of order and become inaccurate from dust and fly which settle on them. We use them as a quick indicator, bearing in mind how much off they are running from a check-up early in the morning. Indicator often shows error of 3 per cent regain in cotton, the errors gradually increasing from the time the element is put into service. Requires about three weeks to get out as much as three per cent.

5. With regain indicator we find variations of one to two pounds for a 44-pound lap due to extreme conditions. This is variation of 4 per cent of total weight in moisture regain.

6. There is no difference in correct weight of laps when using regain indicators.

8. Some difference in weight of lap during the day and night when using the regain indicator.

9. Regain indicator is fine thing in picker room unless the weather changes suddenly and then the indicator is not quite sensitive enough to record the change immediately. There is a difference in the correct weight of the lap during the day and night as the humidity is heavier at night, making the lap heavier.

Improving Yarn by Use of Lap Tester and Sliver Tester.—2. Lap tester is good thing as it shows unevenness yard by yard in lap. If laps are uneven all dust flues should be checked and all slack aprons tightened; also check fan speed.

3. Lap tester and sliver tester help reduce unevenness by locating the machine causing trouble.

4. Though we do not have a lap tester, we feel it would be an asset. We roll our laps on the floor and take one yard at a time and weigh it. Sometimes we detect enough difference in this way to call for a correction in the machine. The sliver tester will locate such things as out-of-round doffers, bad fillets on doffers and cylinders, or even bad conditions in picker room. The thing cannot talk, and it is necessary for the one using it to know something of the sign language which it speaks.

9. Lap tester and sliver tester help reduce unevenness in yarn by revealing the variation in the laps and sliver. Lap tester reveals variation in weight of lap yard for yard and discloses the thick and thin places. Tests on sliver tester reveal variation of the sliver inch for inch, and whether running light or heavy.

Drawing and Carding

Drawing: Heavy Weight on Back or Front Rolls?—1. Heavy weight should be on back rolls to break better the bulk of the cotton. When we put heavy weight on front rolls we got excessive wear on cork top rolls.

2. Mills run both ways. We run heavy weights on back on metallic rolls. Run just as heavy weights on back cork rolls as on metallic, but have heavier weights on the front rolls of the cork.

3. On steel rolls weight should be heaviest on the back; on Koroseal rolls run heavier weight on front.

5, 6, 7, 8, and 9. Heavy weights are run on back rolls.

Type Rollers for Drawing Frames.—1. We changed the worn-out metallic rolls to cork with good results. Later we switched to Koroseal on front and back line with cork on second and third line and got even better results. On this latter change the production increased 8 per cent. We have no undue amount of lap-ups with synthetic covered rollers.

2. Metallic rollers, in first class condition, are best rolls of today. Can get good results from cork, and prefer cork to bad metallic rolls, but for production and all around good running we like metallic. We haven't had much success with synthetic covered rollers.

3. Koroseal rolls give better results on drawing than either metallic or cork rolls.

5. We have metallic drawing rolls.

6. By even-sliver tests, metallic rollers are the best; cork next; our synthetic rollers were not satisfactory.

8. We prefer metallic rollers.

9. By evenness of sliver, appearance, and breaking strength of yarn, metallic rollers are best on drawing frames.

Drawing: Maximum Variation; Consider Relative Humidity?—1. 5 per cent variation from high to low should be maximum on drawing. Do not consider relative humidity in weighing drawing; only weighed at long intervals.

2. 5 per cent variation on finished drawing is good work.

3. 28 per cent variation is about average; do not consider relative humidity in weighing drawing.

5. Maximum variation should not exceed 6 per cent. Regain not considered.

6. Variation of 1½ per cent on each side of standard is maximum.

8. Variation of about 3 per cent from standard high to low for maximum.

9. In using sliver tester to determine variation in drawing, we find 25 per cent variation down to 20 per cent to be fair drawing, and 20 per cent on down good drawing. In weighing sliver yard for yard we believe 5 per cent variation to be the maximum to maintain good drawing. Relative humidity is considered.

Cards: Hours Between Grinding Periods: Method.—1. Grinders work by themselves and grind four cards per 8 hours. Grinder sets all rolls, and when card is ground he sets the doffer and doffer comb only. Cards ground very lightly and generally run 200 card hours before re-grinding.

2. We grind cards for 6 hours. Use a No. 7 emery on cylinder and No. 40 emery on doffer and flats. Grind fairly heavy on cylinders and light on flats and doffers. Change emery on cylinders every 6 cards—on doffers every 10 cards and on drum rollers every 40 cards, or before if the emery gets dull. Grind approximately every 184 to 190 running hours.

3. Grind cylinders every 152 hours and doffers every 104 hours.

5. Grind lightly, three hours at each grind, 240 hours between grinding periods.

6. Grind every 275 or 300 running hours, depending on stock.

7. We try to grind about every 450 hours.

8. 432 hours between grinding.

9. We use fast traverse grinding method. Grinding periods vary from 180 to 240 hours running time.

Putting More Sliver in 12 x 36 Card and Drawing Cans.—2. We keep can table leveled and place it so the tube wheel will lay the sliver up close to the side of the can; same on drawing as on cards. In

some instances the cans are reversed.

3. We are experimenting with setting the heads off center so as to fill the space near the outside of the can, also the hole in the middle of the can. We get 16 pounds in card cans and 19 pounds in drawing cans.

5. On cards get 8½ pounds per can; first drawing 12 pounds; second drawing 14 pounds.

6. Card can holds 10 pounds; first drawing 12 pounds; second drawing 14 pounds.

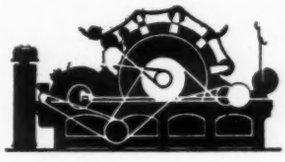
7. By using a smaller trumpet on both calender and coiler heads on cards, we get 15 pounds in each can; first drawing 16 pounds; second drawing 18 pounds.

8. We get 10 pounds on cards, 12 pounds on second drawing frames, and 12½ pounds on first drawing frames.

9. More sliver put in card and drawing cans by compressing the sliver. We get 11 pounds in card cans, 13 pounds in first drawing, and 15 pounds in second drawing cans.

System for Weighing-Up (Considering Section Beams) Through Mill.—2. We size roving in card room and yarn in spinning. Hardly ever change any weights on warps as long as beam weights are good.

3. Measuring clocks on warpers give yardage and we know number of ends. We figure the standard weight of beam and weigh each beam and check against standard weight.



5. Daily record of all drawing and roving weights kept. Section beam weights are grouped daily by the rovings from which they are made. By comparing and checking these weights daily, the ball weights can be kept fairly constant by card room changes. No warp changes made in spinning room.

6. We change at speeder to keep weights.

8. We weigh finished drawing and roving every 8 hours.

9. We try to keep numbers right on the dot through every process.

Slow or Fast Carding.—1. Have no decided opinion. When running some of the lower grades of cotton we think it better to card fast.

2. Light lap and fast doffer speed is better than a heavy lap and slow doffer.

3. Heavy lap, about 14 ounces, and slow doffer is best.

5. Slow doffer speed is better.

6. We prefer light lap and fast doffer.

7. More even results and less speck with light lap and fast doffer; there is then a thinner batch of cotton spread over the cylinder.

8. We use 14-ounce lap with 9½ r.p.m. of doffer, carding about 14 pounds an hour.

9. Light sliver and fast doffer speed will give best results. This way the cotton receives the maximum amount of cleaning when it is carried over the flats one time and the cotton is taken off the cylinder; a heavy sliver with a slow doffer r.p.m. causes the cotton to be packed down into the clothing.

Variation in Card Sliver.—Answers on variation in card sliver given by mills were 3 per cent, 10, 12, and 13½ per cent. 9. Tested on sliver tester, average variation is 8 to 10 per cent. Weighed yard for yard, one to two per cent variation is good.

New Type Surface Wound Licker-In.—8. We tried one and did not like it.

Stripping Alternate Cards (Colored Work).—3. No dyed cotton. We strip cards continuously, allowing the card to run two minutes after stripping before putting end up.

5. Using eight lines of cards as an example: First strip lines 1-3-5-7 and then strip lines 2-4-6-8. No two lines facing each other will then be stripped at the same time.

6. Strip three cards in a row and then the next three. Stay three cards behind.

8. We strip all cards at once then creel strip doff one can to a head on drawing.

9. We strip alternate cards on colored work by the conventional hand stripping roll.

Correct Diameter of Trumpets at Cards.—1. We made some radical improvements in the card room about two years ago and replaced all carding and drawing trumpets, using the standard size recommended by the manufacturers.

2. Important question. We are gradually getting our trumpets straightened out from a 1/32-inch to 1/16-inch difference from calender trumpet to coiler trumpet.

3. Card and drawing trumpets should be checked every six months and changed when they become 4/1000-inch out of tolerance.

5. Correct diameter necessary to get correct tension. Check them about every 3 or 4 years, replacing when necessary.

6. We check trumpets and replace when needed.

9. Correct diameter of trumpets at cards important. Too small a trumpet will cause difficulty in getting the web up; will stretch sliver and make it light. We check trumpets at intervals of six months to one year and replace if worn or if opening is increased in diameter. Trumpet at calender rolls should be twice as large as one at coiler head.

Card Settings for Rayon Staple.—8. We set stripping plate as close as possible to cut down strips.

9.

Licker-in to feed plate	15/1000-inch
Top Mote Knife from Licker-in	Out
Bottom Mote Knife from Licker-in	Out
Nose of Licker-in Screen from Licker-in	15/1000-inch
Blank Part of Licker-in Screen from Licker-in	22/1000-inch
Licker-in from cylinder	7/1000-inch
Flats to cylinder:	
Front Stand	10/1000-inch
Second Stand	10/1000-inch
Middle Stand	10/1000-inch
Third Stand	12/1000-inch
Back Stand	12/1000-inch
Stripping Comb to Flats	15/1000-inch
Cylinder Screen from Cylinder:	
Front	3/16-inch
Middle	34/1000-inch
Back	27/1000-inch
Doffer from Cylinder	7/1000-inch
Comb from Doffer	15/1000-inch
Top Back Knife Plate from Cylinder	17/1000-inch
Bottom Back Knife Plate from Cylinder	22/1000-inch
Top Edge Front Knife Plate from Cylinder	12 or 15/1000-inch
Lower Edge Front Knife Plate from Cylinder	22/1000-inch

Roving Frames

One-Process Roving in Card Room.—1. Using a regular roving frame as one-process in the card room, we believe 6½ is a maximum draft. We make 1.00 hank roving from 55-grain sliver, ⅞-inch cotton. This is run single on long draft spinning frames into 16s yarn.

3. On long draft speeders we have draft of 16 and run double creel roving in spinning where we also draft 16 for 23s yarn.

5. We are making .90 hank roving from 56-grain drawing on short draft slubber, draft 6.05. This slubber roving is drafted into 17s warp yarn on long draft spinning, draft 18.9.

8. On Superdraft, from possible 10 to 28 draft, on 1.37 hank roving draft of 10.34 run single process to 20s yarn.

9. Limit of draft on regular roving frame should not be more than 6. Roving to be run single on long draft spinning, making 20s yarn, should not have a draft of over 6.

Evener Roving from Long Draft or Two-Process.—1. Roving made from one-process and run single into spinning may not be as even as two-process roving run on regular roving frames, but our experience with it in the spinning room has been just as satisfactory.

2. Long draft roving is not as even as two-process roving.

3. Roving from long draft speeders is not as even as on 3-process system.

5. Tests made on yarn show practically no difference in evenness of roving from one-process and two-process roving.

8. Long draft roving more even and more uniform than two-process roving.

Wt. Sliver with 3-Roll Long Draft.—2. On our long draft we use 55-grain card sliver and 60-grain finished drawing sliver.

3. We have 52-grain card sliver and 52-grain drawing sliver going into our folding roll long draft speeders.

8. Card sliver 60 grains, drawing sliver 64 grains, made into 1.00 h.r. with 7.68 draft.

9. Card sliver 60 grains; drawing sliver 60 grains.

Wt. Sliver with 4-Roll Interdraft.—5. Card sliver 67 grains; 1st drawing 65 grains; 2nd drawing 65 grains.

New Roving Frame Cones.—2. Satisfactory results. Can keep better tension on frames with new cones; roving tester shows roving as even as on former cones.

3. Have one frame on new cone; so far have not noted improvement.

Compare Ends-Down in Spinning Using Long Draft Roving and Regular Roving.—3. Few more ends down in the spinning room when using long draft speeders than when three-process roving is used.

5. Ends-down in spinning: Regular roving, 30. Long draft roving, 17. 8280 spindle hours, 21s warp yarn.

6. There are more ends down in spinning when using long draft roving.

8. About the same.

Breaking Strength of Yarn Compared: Long Draft Roving and Regular Roving.—3. The breaking strength of yarn from long draft speeders is not quite so good as from the regular roving.

5. Breaking strength of yarn: Regular roving 86.3 pounds. Long draft roving 88.7 pounds. 21s warp yarn, corrected to 7 per cent regain and standard number.

6. Lower break with long draft.

8. Improve breaking strength with long draft roving frames.

Picking Clearers.—2. It is necessary to pick top clearers more often on intermediates when using one-process roving than with the two-process.

3. On long draft roving frames we have to pick the clearers more often.

5. We have not changed our clearer picking.

8. and 9. Pick clearers more often on long draft roving.

Cause of Excessive Shedding and Lumping Beneath Bottom Band on Long Draft Roving Frames.—2. We do not know what causes shedding and lumping on long draft, but if the stationary clearer is used on the bottom rolls it will help the running of the frame.

8. Keep relative humidity around 65 at all times to prevent excessive shedding.

9. Excessive shedding and lumping is caused by loose carding, causing a choke beneath the bottom band.

Cost per Spindle for Long Draft Rollers, 1938.—

5.	Slubbers	.0018 Cork	.50 hr	.625 hr	.90 hr
	Intermediates	.0012 Cork	1.29 hr		
	Speeders	.0012 Cork	1.29 hr	2.67 hr	3.00 hr

(The next installment of this compilation of answers from southern mill men will appear in the June issue. Spinning questions will be discussed. Save this installment so you will have the complete story.)

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Mercerized Cotton Yarn Institute Forum

That great care should be taken in selecting undergarments from a health point of view and that the absorption and evaporation qualities of garments are of primary importance in this connection, and that proper and adequate fiber identification is essential to intelligent buying was pointed out at a Forum meeting of the Consumers' Advisory Committee of Women's National Institute, of which Mrs. Gertrude E. Fox is chairman, at the Hotel Lexington (Editor's note: held March 28th), to consider factual information of interest to the consumer regarding undergarments of mercerized cotton yarn.

Speakers at the Forum included Roy A. Cheney, president of the Underwear Institute, who spoke on trends in underwear, the growing demand for knitted underwear, and the problem of "the shirtless vogue," particularly among men; Dean Hill, president of the Durene Association of America, discussed the properties of mercerized cotton and the significance of the recent discovery that mercerized cotton undergarments absorb and evaporate perspiration twice as fast as those made of ordinary cotton yarn, and their efforts to make this information available to the consumer at the point of sale; Mrs. Betty Green, fashion editor of Parents' Magazine, who spoke on the exhaustive studies made by Parents' Magazine of underwear for children from a health standpoint. Miss Rajean Codish, technician of the U. S. Testing Company, described the "wetability test" which they had evolved to determine the rate of absorption and evaporation of cotton underwear fabrics. G. H. McCracken, well-known football coach, spoke on the importance of proper underwear to the health of athletes and young people generally.

Gaylord Again Expands

Gaylord Container Corporation, with general offices in St. Louis, has announced the addition of a new corrugated box factory at Greenville, S. C. A large volume of business in the Greenville territory has made it advisable to establish a plant there so as to be in a position to give the best of service to the company's growing business in this area. The building is modern in every respect, and will house a complete corrugated and fibre-board box plant. Another part of the Gaylord expansion program is a new folding carton plant now under construction in St. Louis. It will replace and enlarge the facilities acquired through the absorption of Doane Carton Company. This property will give Gaylord Container Corporation a thoroughly modern carton plant of sufficient capacity to take care of their rapidly growing volume in this field.

Textile Week at Greenville

Photograph by Crompton & Knowles

A TYPICAL SCENE AT GREENVILLE. W. S. Pepperell, purchasing agent, and J. C. Cowan, Jr., vice-president in charge of manufacturing, Burlington Mills, Inc., are watching a loom in the C. & K. exhibit. Ralph Deal and Fred Howe of C. & K. are helping.

EXPOSITION WEEK IN GREENVILLE was an unqualified success! The 13th Southern Textile Exposition, in Textile Hall during the week of April 3-8 inclusive, provided the outstanding attraction which was the nucleus for a full week of activity that constituted the center of textile interest of the country as a whole.

The occasion was blessed with perfect weather throughout the week; the usual over-flow attendance of mill men, mainly from the South, but with many from other sections; an excellently managed array of exhibits of textile machinery, equipment, supplies and services; and a week's program of valuable related meetings. None of the three major manufacturers of cotton spinning and preparatory machinery exhibited, in accordance with a plan started some years ago for these concerns to exhibit every other show, but otherwise every conceivable type of equipment and material applicable to spinning, weaving and finishing plant operation was on display.

Unanimous approval of the new, shorter hours for the exhibit was obvious. This year's show operated on a schedule under which the show closed nightly at 9:00 P. M., instead of 10:00 P. M. as in the past. An informal canvass of mill men, exhibitors and exhibitors' representatives throughout the week revealed no single objection to the shorter schedule; no one felt that it detracted in any way from the value of the exhibition, all agreed that the earlier closing contributed to efficiency, comfort and convenience. The show opened this year a half-hour earlier each day than usual, at 9:30 A. M., instead of 10:00 A. M. as in the past. and that this was a constructive change was obvious from the crowds waiting for the doors to open.

There was at least one meeting of interest each day of the week. Monday, the opening day, was Founders' Day, with special ceremonies at Textile Hall, and recognition being given to those who founded the exposition in 1915, under the auspices of the Southern Textile Association; surviving members of the founding group were present and introduced.

On Tuesday the Greenville Rotary Club presented a special program, with visiting Rotarians present, in charge of Edwin Howard.

Wednesday was Engineers' Day with a joint meeting of the textile division of the American Society of Mechanical Engineers and the Greenville section of that body. J. D. Robertson, chairman of the textile division, and H. H. Iler, chairman of the Greenville section, presided. The following papers were presented: "The Future of Lighter-than-Air Craft," by F. C. Mills, student in mechanical engineering at Clemson College; "New Mechanical Ideas and the Textile Engineer," by Frank U. Naughton, Jr., Hyatt Bearings Division of General Motors Corp., Worcester, Mass.; "The Fluorescent Lamp, Its Development and Application", by Glenn E. Park, of General Electric Co., Charlotte, N. C.; and "Flax, Its Possibilities for the Cotton Textile Industry", by C. G. Worthington, Georgia School of Technology, Atlanta.

On Wednesday evening, a joint dinner honoring members of the General Assembly of South Carolina and members of the A. S. M. E., with J. D. Robertson presiding and E. W. O'Brien, editor of *Southern Power and Industry*, Atlanta. as toastmaster. Governor R. R. Maybank of South Carolina was a special guest.

Also on Wednesday evening, there was a dinner of Lowell Textile Institute alumni with President Charles H. Eames present.

On Thursday, the Kiwanis Club of Greenville had visiting Kiwanians as its guests. The speaker was Frederick M. Feiker, executive secretary of the American Engineering Council, Washington, D. C.

Friday was textile associations day, with officers of the Southern Textile Association and Textile Operating Executives of Georgia honored at a luncheon, presided over by Louis P. Batson, at which Dr. Charles Haddon Nabers spoke on present conditions in Europe. A dance at the Poinsett Hotel, sponsored by the Greenville Junior Chamber of Commerce, closed the day's activities.

Turning back to the Exposition itself, despite the absence of the "spinning people", every available inch of exhibit space in the main building and the annexes was utilized. The industry generally recognizes the Greenville Show as an essential institution in it. Space and time limitations preclude a detailed description of each exhibit. but as a marker of progress, as a reminder for those who attended, and as a report for the few who didn't, the following resume of what was exhibited, particularly the new things, is presented. It has been organized and classified according to the type of equipment. Every effort was made to insure its accuracy and completeness. Nothing was intentionally overlooked. It is presented as what one trained observer saw in a week intensively devoted to the task. See page 74.

Review of Exhibits at Greenville

● IT IS ONLY NATURAL in an exposition such as was held in Greenville that the moving machinery attract great attention, and the 13th Southern Textile Exposition was no exception. Many of the booths were taken, however, by companies with products that were not practical to show, and representatives were present, giving excellent opportunity for the renewal of acquaintances and to offer services on practical mill problems; it was noted that these booths were constantly favored with mill men who were taking advantage of this opportunity.

The Moving Machinery

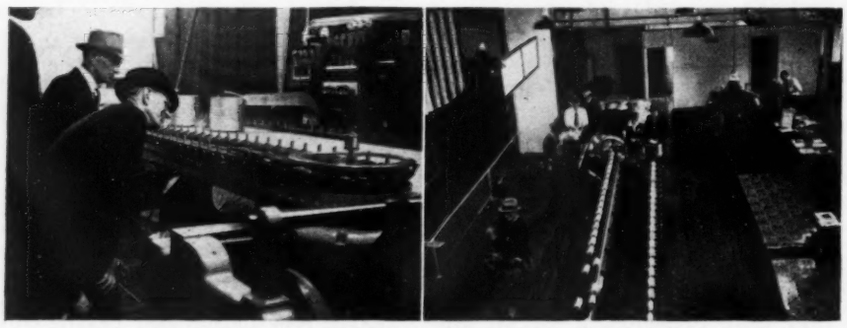
In the way of preparatory machinery, the Lummus Gyrator was operating, showing the visitors an entirely new and unique method for opening, cleaning, blending, and distributing cotton to the pickers. In the same booth was the single-process picker, built into an old frame, and converted from the conventional two-process into one-process picking, said to progressively improve the stock as it passes through the picker. The Truslow blending attachment seen at the show may be used on all types of textile fibers, and is especially helpful in preventing "rowy" goods. It is also helpful for cotton blanket mills where the shades of different colors must be as near alike as possible. In this equipment, the stock passes through the piping to the blending attachment, where it is discharged upward against the under side of a revolving cap or canopy. Vanes on the under side revolve the blender as the stock strikes it. At the same time a portion of the pipe revolves slowly about the room and distributes the stock evenly and in the form of a heavy snowstorm.

The regular Super-Speed warper (900 yards per minute) was running, now equipped with a hydraulic brake and mechanical clutch. This machine has been improved to run dye beams. The automatic spooler used in conjunction with the Super-Speed warper may be equipped with two types of snick plates, the breaker type for excellent cleaning, and the standard tooth type with improved features, both of which may be adjusted quickly. Makers of these machines also have developed a line of temperature and moisture control instruments.

Winding Equipment

Both the Type K quill cleaning machine and the Type L rayon and silk cleaning machine were shown. The Type L operates from an independent source of compressed air and cleans waste from highly finished quills with no possibility of damage. An allied device to operate with both of these machines is the hoist for bobbins, an effort and labor-saving job that makes the functions of the operator easier and less tiring.

Many types of winders were running, suitable for the various textile fibers. The Model 75 now has an improved oiling attachment. The machine winds silk, rayon and cotton yarns to cones and tubes, made possible through a gear gainer attachment. On this machine there is an absence of clutches or tight and loose pulleys for stopping and starting, this being accomplished by a "knock-off" device which tips the stop motion up and thereby applies the spindle brake and releases tension on the belt connecting the spindle with the bottom drive shaft. The Model 102 will also wind several types of packages, and is suitable for use on cotton, mercerized, woolen, merino, spun silk and rayon.



Photographs by George E. Missbach

Missbach snapped these two typical views. Left, two interested mill men watching a tenter; right, bird's-eye view of the traveling spindle automatic winder . . .

The doubler-twister on display operates at 7600 r.p.m. and places 20 ounces on a spool. It provides an instant stop motion; another feature is that the yarn makes no sharp angles in winding, but follows a straight line from package to package. The thread guide over the spindle moves one-half the speed of the ringrail. The enclosed head-end runs in oil; it has a flexible drive, and carries an individual spindle adjustment for the ring. The high-speed Jumbo machine for twisting has an eight-point spring adjustment and a spindle brake stop for repairing a broken end. The porcelain guide is self-adjusting; the machine was running on a combination of acetate and rayon.

The Duplex doubler-twister has the novel feature of a removable eye, new traverse motion to secure a smoother bobbin, a new cam motion built sturdily, and a weight adjustment with finger touch control for belt tension. It may be converted to silk or rayon. The Simplex double deck skein winder has 85 variable or changeable speeds and the traverse motions operate in the opposite directions to prevent thrust. The Apex machine has double or single decks and operates with the same motion as the Duplex. The spindles are balanced top and bottom and are set 14 inches apart to prevent broken ends tearing down other ends.

The Unirail twister, with a solid, one-piece rail, was shown for the first time at this show. The top and bottom decks are exactly the same width, 10 inches between whorls. The versatile 5B machine offers a wide range of combinations of ring size and type, feed, speed and traverse; it handles the packages overend. The Stonington winder may be built to meet individual requirements and is an oilless, compact, and smooth-running machine.

The traveling spindle winder attracts much interest among the mill men and fascinates the non-textile visitors to the exposition. It is adaptable for winding packages of various shapes. A new development along the line of this machine is one for winding knitting cones, operating in a similar manner but with a new type spindle that does not produce the retracted cone.

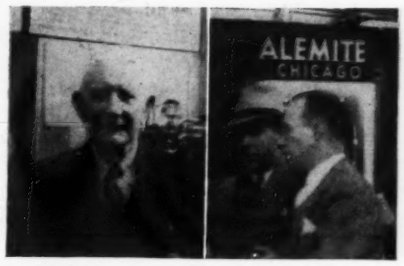
The Model K bobbin winder and the Model T Junior cop and butt winder were also running. The first machine for bobbins of any yarn going into the shuttle, is built for either plain or automatic loom filling of any type, has bunch builder which puts measured yardage on bunch; the latter is designed to wind cops and butts of any yarn for the shuttle with the exception of the heavy plied cotton and wool yarns and unusual material such as asbestos and similar fabrics. It is built with alternating spindles facing opposite sides for economy of floor space. The Hacoba is a fully automatic filling winder for every type of yarn. It automatically stops winding when the bobbin is full, cuts the thread, lowers the bobbins into a tray, supplies new bobbins, and starts up the new bobbins.

automatically winding a bunch of predetermined length, therefrom proceeding with the winding of a new set of bobbins. In the same booth was shown the Hacoba automatic braider bobbin winder.

A machine involving entirely new principles was the No. 99 Electromatic winder. It automatically removes a full bobbin and starts winding on an empty bobbin without assistance from the operator. The transferring is done electrically, requiring only two seconds to doff and load two bobbins and get the spindle in operation again. The machine will run about two and a half times as fast as the No. 90 winder. It is equipped with automatic bunch builder and can be built into sections up to 100 spindles with 50 spindles on each side. A simple change in the head-end makes it possible to reverse direction of the spindles. This machine is now undergoing thorough mill tests and will not be released generally for several months. The No. 50 winder and the No. 44 Roto-Coner were shown by the same exhibitor. On the former the stopping lever has been shortened in length and the clearance between the lever and the stopping wheel has been increased to three-quarters inch.

New Looms at Exposition

Several looms were in operation at the Greenville show. The S-5 with 20 harness, a 2x1 box loom, was running 174 picks per minute making panne satin. This loom carries a pick counter with a reading of percentage of efficiency in red and actual production in black figures. A new feature is the swinging magazine so that the bobbin is in transfer position at all times. Loose ends, which sometimes cause bad cloth by being drawn in the fabric after a transfer or temple cut, are sucked out of danger by a vacuum container, quite a novel arrangement. This loom is 52 inches between swords. The C-4, 92 inches between swords, a 4x1 box loom, was making 135 picks per minute weaving 2/2 twill cotton blankets. It has a magazine transfer and the Wattie multiplier so that varying width stripes can be placed in blanket, making the pattern more flexible. Makers of these looms showed an interesting metallurgical testing laboratory with some of the instruments used. A breakdown machine was running, used in testing the all-steel shuttle box. An abrasion unit tested bearings for wear according to weight before and after being run over long periods. The crankshaft fatigue machine showed the terrific overload strain placed on loom crankshafts as they are tested for life at the factory.



Photographs by Harry H. Purvis

At left, W. C. Cobb, retired mill superintendent of Ware Shoals, S. C., and one of the industry's beloved characters, seen in Textile Hall. Right, "Red" Davis, of Stein, Hall & Co., borrows the rail on the Alemite booth for a chat with Robert T. Stutts, of Woodside Cotton Mills Co., Simpsonville and Fountain Inn, S. C. . . . . .

The new Model XD duck loom, 44 inches, was weaving at 165 picks per minute, using the roll and shaft top harness with the No. 8 dry disc clutch for driving. It uses the regular Roper let-off. The distance between loomsides is 17 inches more than the nominal width of loom. The sides are stronger. The picker stick bumper is fastened to loomside. It has the through type of rocker shaft, but is of two pieces held by coupling. It has a heavier take-up. In the drive, the parts that have formerly been subject to wear have been made stronger. Whip-roll is set in a high position and the 26-inch diameter beam can be moved forward into the loom. The back box plates beveled at mouth allow box plates to be set ahead of reed to eliminate excessive wear on back of shuttles. The Model XK is a 44-inch rayon loom and on display was running 170 picks per minute on rayon taffeta. It also has the dry disc clutch but uses the automatic Bartlett let-off and the semi-low roll silk take-up with new pressure roll bearings and spreader bar; also the cloth smoothing board. The pick motion is provided with a new cam. It has dobby timed harness cams and rubberized fabric compensating sheave straps for long life and stability. The harness springs are new type. Also running were the Model X loom at 202 picks per minute and the Model XL sheeting loom, 90 inches, at 122 picks per minute.

A loom was in operation showing the use of the K-A electrical warp stop motion, and it was advised that arrangements have now been made with Draper Corporation to supply these stop motions on new looms when requested by the purchaser. This stop motion, according to the manufacturer, has no moving parts to wear. It may be supplied in from two to twelve banks of wires.

Still another loom was operating using the Dodge loom drive, a principle of the fly-wheel or energy drive. It was running 186 picks per minute on 80x80 goods from an overhead drive lineshaft with a V-belt on motor to line shaft and a flat belt drive to loom. This loom was fitted with self-oiling babbited bearings on crank and cam shafts. The loomside legs were resting on cork insulation pads to minimize vibration.

Of interest to many mill men, because of broken filling, was a device set up on a running loom's battery to prevent the quill turning in the battery and breaking the filling before the transfer. This same exhibitor showed cast parts before and after finishing. Another exhibit of interest to weavers, was the shuttle truing machine for matching shuttles, and which carefully brings the shuttles to the proper width in matching for multiple box looms.

Many various types of reeds, harness, combs, etc., were on display for interest of weavers. A gauge to show the correct build of a shuttle was in operation.

The new Twist-Setter, a yarn conditioner, has fewer moving parts, and is said to operate without any special finish or rust proofing required on the bobbins. It requires only 3x9 feet of floor space and is said to get higher production. Other standard filling and yarn conditioning machines were also to be seen in operation.

For the cloth room, visitors were shown the AE type 48-inch 4-knife shear and double brush roll unit; the GF 290 inspecting machine for skylight and table inspecting; and the towel folding machine. The type CMR shear, with automatic seam protector, completely removes selvage and surface threads from cottons, rayons, and silks. It has the individual built-in motor and insures a constant speed for the revolvers and eliminates all fast-running belts. The automatic seam protector is constantly on guard. The type LR inspector with motor drive is designed for handling of large rolls of cloth, taking rolls up to 32 inches in diameter.

Many types of extractors and dyeing machines were shown, lined with various corrosion-resistant materials. A miniature Obermaier stainless steel

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FOR the representative camera shots made at the Greenville textile show, as used with this report, we are indebted to Harry H. Purvis, superintendent, Chicopee Mfg. Corp., Gainesville, Ga.; George E. Missbach, Atlanta, representative of Mathieson Alkali Works, Inc., and the photographic department of Crompton & Knowles Loom Works. Credit to the respective source is given with each picture . . . .

cake package dyeing machine was shown, especially adapted for dyeing rayon. Large machine will dye 250 one-pound cakes of rayon at a time. It is suitable for all direct colors of good solubility. The dyed rayon can be rewound from cake onto bobbin at same speed as from cones on the Hacoba automatic quill and braider bobbins.

Makers of corrosion-resistant materials displayed their textile wares of utensils and showed the materials in use on dyeing machines, slasher cylinders, dry cans, calender rolls, etc. One display showed the comparative rigidity of plain cast iron and nickel-clad iron, with the latter showing up much more rigid and stiffer. A model of a nickel-clad starch kettle attracted attention; it is said the cost is only a little more than the regular kettles. A portable food container was made with stainless steel top.

The latest type of high speed tenter, with ball bearings running in enclosed oil cases, was equipped with a weft straightener, operating on the photo-electric-cell principle. The machine had a tension control batcher on the delivery end to wind cloth from a shell to full size roll under the same tension.

The salt brine percolator, of particular interest to dyers, was in actual operation. It operates on a new principle so that clogging of lines is almost impossible.

One stainless steel package dyeing machine showed the new non-clogging spindle and full automatic control mechanism. In the same booth was the staple fiber cutting machine which cuts any textile fiber into staple of any desired length; it was shown cutting wool top, the finest grade of wool that has been combed and scoured and put in sliver form.

The automatic electric guider for singers, padders, mangles, printing machines, sanforizers, etc., was shown. Cloth expanders for water mangles, starch mangles, dry cans, and calenders were of both the 5-bar and 3-bar expanding type.

One exhibitor featured a leasing device for rayon filament and spun rayon on slashers, replacing the company's hook reed, and said to require from 3 to 5 minutes to take a lease. There was also an automatic reeding machine, a great time-saver, to be used with any number of reed, electrically operated; and shown too was the expansion comb for slashers.

An important recent development is the warp drawing-in machine for drawing in steel heddles. It draws 4 banks of drop wires and 6 harness of flat steel heddles and one reed. Plain or leased warps, double beam, or double sheet warps can be handled with equal facility, speed, and accuracy. In conjunction with this machine a harness frame was developed with no springs to cause trouble and expense. Besides the foregoing warp drawing-in machine, the Model LC for cotton and the Model LS for anything from end and end lease were shown in the way of portable warp tying-in machines. The Model LL is a combination machine and will tie from sheet work or from end and end. A new labor-saving machine is one that places open type drop wires on warp threads on the loom in a manner closely simulating manual action, using lease rods. It can be set in place on any standard loom in a few minutes and will drop wires at the rate of 120 to 150 per minute depending on warp conditions and material.

Regular safety tables for textile work were on display, showing also the new electric clutch for sewing machine drive. Several sewing machines were in operation, and especially featured were the butted seam machine, the chain stitch feed-off-the-arm machine for closing shirts, the 147-101 for setting sleeves, and the regular lines of over-edging and over-seaming machines. For bleacheries and cloth rooms the Supreme butt seam was on display; in the same exhibit was the ball bearing spiral roller for scutchers. The bristle brush stretchers are adaptable to all classes of machines such as winders, dryers, printing machines, etc. The piece-end sewing machine will sew any fabric of any thickness, wet or dry.

Photograph by Crompton & Knowles

His Excellency Sees the Textile Show. Governor Burnett Maybank of South Carolina, who accompanied a delegation of state legislators to the exhibition is seen here (center) between Fred Howe, southern agent, and Rufus S. Frost, vice-president and assistant sales manager, of Crompton & Knowles Loom Works . . . . . .

Motors and Drives

From the standpoint of exhibits showing various types of textile motors and drives the show was well worth attendance by the operating executive. Motors for every conceivable textile use were shown, some under actual operating conditions and others in diagram. Of especial interest in connection with power transmission, which was one of the highlights of the show, were such types of textile transmissions as the P.I.V., positive, chain, belt, direct, cone, etc. Some of these were shown in principle or model as applied to spinning frames, looms, slashers, dyeing, and finishing machinery. The variable speed drives as applied to such machines as spinning frames, dry cans, etc., were quite informative to the visitors.

Many exhibitors featured electrical equipment such as capacitors, motor controls, linestarters, disconnect switches, control units, etc. One exhibitor showed in an easily understood manner what power factor is and how it may be corrected.

In the way of chemicals and oils and finishes, exhibitors displayed these along with samples of fabrics finished with their products, inviting comparison as to hand, finish, appearance, etc. Among the newer products shown were Surfax W.O., a wetting out agent for Sanforizing, Excize for desizing, Drisize for cotton warps and containing no water or metallic fluorides, Deceresol for wetting-out (the product that makes a duck sink when washed with it), Rapilon as a waterproofing agent, Textac for use with starches and softeners to give tougher and more flexible textile finishes, Ahcolvel A and B as softeners, Synthrapol AS as a detergent and scouring agent, AHCO Finish NM for weighting and softening cotton, rayon, and wool, and Ahcopan waxes; besides the regular line of chemicals and cleaners such as Oakite which the exhibitors have made available in the past. Infilco was a new type of water treatment product.

Something new in starch analysis was presented by one of the starch companies. The Uviac lamp with ultra-violet light filtered through nickel cobalt showed the various starches and dextrines to be a different color under this lamp, whereas they appear almost identical under ordinary light. It also showed the various colors of starch during the stages of process and different colors of dextrines during dextrinization. Even dyestuffs appeared different colors under the lamp, though under ordinary light they appeared identical.

As usual the lubricating companies were displaying their products. One company exhibited the oscillagraph and showed vibration in balanced and unbalanced spindles.

The visitor to the exposition was greatly impressed with the importance of mill lighting after seeing the various types of lamps and reflectors for each department in the plant and for every purpose, from color matching to individual loom lighting.

One ring traveler company had a short frame to show the performance

Photographs by Harry H. Purvis

Out for Air. Three groups of mill men and exhibitors in front of Textile Hall. First group, C. R. Moore and J. C. Simmons, of Cedartown, Ga., and J. T. Byron, of Jefferson Mill No. 2. Second group, George E. Glenn, of Lindale, C. G. Stover, of Corn Products Sales Co., and George Sessions, of Martha Mills. Third group, C. L. Chandler, of Jackson Mills, Wellford, S. C.; L. B. Gibson, of Fairmont (S. C.) Mills; and W. H. Gibson, Jr., of Martha Mills, Thomaston . . . . . .

of the vertical and flat traveler, while another featured a model electric train carrying carloads of travelers (symbolic of shipments being made in future in carload lots) and exhibited for the first time the new ellipse spinning traveler for spun rayon and rayon twisting with Berylian finish.

Other companies featured their regular line of paper cones, tubes, etc., for textile use. An innovation at this show was the exhibition of paper bobbins for spinning, said to prevent wear of the spindle and to conserve power. Other companies showed their line of conventional bobbins, quills, spools, etc.

Manufacturers of leather goods showed new bumpers for looms, belting, strapping, etc.; special belting for special purposes; hydraulic packing for various uses. For belting there was seen the Model HP slip testing machine for flat or V-belts, showing the percentage of torque and percentage of slippage in various belts. The dynamometer gave conclusive tests favoring the purchase of good belting. New developments in rubber, fabric and woven belts were on display.

Suppliers for textile plants showed roving cans, doff trucks, Dilecto specialties, Celoron gears, Micabond and Haveg fabricated parts, rubber casters for trucks, lug straps, loom accessories, etc. One supplier of bobbins showed the new *proposed* rubber bushing for fitting in the top of warp bobbins to prevent vibration of the bobbin. Manufacturers of cork rolls, cots, synthetic drafting rolls and aprons, leather of calf and sheep skin had booths. A new synthetic material developed recently is said to be static free, does not vary in hardness with temperature, and does not eyebrow.

Spinning frames were running showing the power saving and long life of new spinning tapes, some equipped with recently developed tape fasteners. The multiple groove twister ring is said to reduce the frequency of greasing. One card clothing manufacturer was operating a machine showing how card clothing is made while others exhibited the line of products. Also featured was a new type of card feed roll with teeth to give evener sliver because the licker-in cannot pluck the cotton from it as with the conventional feed roll.

Many of the machines were running from motor bases which give an even starting torque, fast becoming popular in textile plants.

Other suppliers showed new developments in shuttle eyes which control the tension of the yarn, tempered dogwood and persimmon shuttles, fiber shuttles, new shuttle eyes of cast iron and brass type for high speed looms, shuttle eyes with disc and flat pads for controlling tension and adjustable with the tension-meter.

In the way of a new bobbin there was shown the Stimson type bushing for bobbins to make the bobbin steadier on the clutch type of spindle.

Aluminum and magnesium are playing their part in new developments in the textile industry. Aluminum beams and carboys are now available, and a picker of magnesium is being developed and was shown for the first time at the exposition.

A new rubber and fabric picker bids fair to be popular in that tests were run and orders given in quantity during the show. The maker of this picker also showed every type of V-belt drive, cone belts, etc., being run with Vulco belts.

Other exhibitors showed new brushes for cleaning long draft frames, and for getting the gears of looms brushed; Tite-Fit tubing for shipping textile goods in rolls or folds; bushings of micarta (a cotton base plastic); bearings of brass, both oiling type and self lubricated, oil impregnated Ledaloyl bearings, bearings of asbestos requiring no lubrication; grooved graphite-inserted bronze bearings, roller and ball bearings, etc.

The improved Moist-O-Graph for controlling moisture content and speeds on slashers, psychrometers, humidity and temperature controllers, regulators, etc., were in evidence.

For controlling air currents there were fans for various purposes, such as bracket, circulating, exhaust, ventilating, and pressure. Unit heaters and coolers, and combination heater-humidifiers both large and small were showing the saving in fuel for heating and power saving in cooling.

A model Airchanger system was working and a Humiduct was functioning; also the new ductless ventilation system. Humidifiers of all types were on display, operating to show the mill man the specific purpose of each. A lint condenser with automatic doffer showed how the air was cleaned when recirculated air is used.

Both the creel type and the ceiling type of overhead cleaners were running over spinning frames. Overhead handling equipment was in use to show the time and effort saved by its use. The dustless portable card stripper moves from card to card on wheels.

Several companies had a complete line of tools of various metals, heavy tools, hand tools, precision tools, gauges, and pipe tools, the latter with great improvements as to time and effort saving.

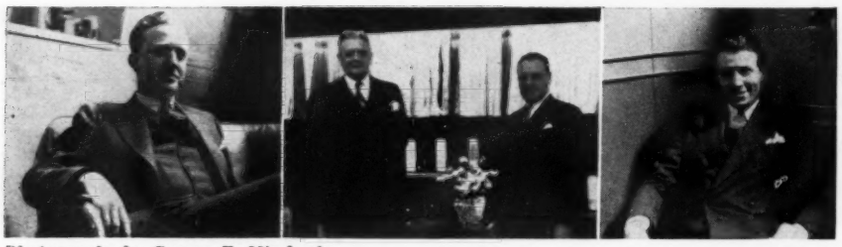
The water coolers on exhibition were in operation and furnished cold water to the visitors. An attraction in this line was the water cooler operated by the photo-electric cell which turned the water on as the person leaned to drink.

Manufacturers of paint showed colors to match shades of original machinery for quick drying and which were one-coat paints, bobbin enamel paint, beam head white to prevent rusting, one-coat paints for mill houses, flat wall paints for village houses, partial glosses for same purpose, one coat mill white gloss, floor finishes to eliminate scrubbing, glare reducing window finishes, etc.

For the master mechanic there were lines of valves of various types and makes, steam traps, nickel-iron castings for gears, Plibrico boiler setting construction for water tube boilers, stokers, stoves, etc.

For the general maintenance man there was the lawn mower which does the work of several men, steam conduit systems offering permanent protection and insulation for underground pipe lines, steel encased insulated water-tube boiler (placed on flatcar opposite exposition building).

Of interest to all were the high-



Photographs by George E. Missbach

Inside Textile Hall. Left to right: James Morrison of National Tube Co., P. G. (Hi-Yo Silver) Wear and D. P. (Burn-'em-up) O'Connor, of Penick & Ford, Ltd., Inc.; and James Stallings, of Stein, Hall & Co.

pressure systems of lubrication with air-powered grease guns.

For lifting heavy loads easily there were the electric hoists and hand hoists, ingeniously engineered so that little effort has to be exerted. Grinders for the machine shop were also shown.

The office manager or paymaster found the complete line of tabulating, adding, calculating, payroll, and check-writing machines.

Visitors were shown how lumber is vacuum-pressure treated to insure preservation.

Other items of interest generally to the mill man were the rotary pressure joints, line drawing of "speed heet" for cotton slashers and dry cans, pressure equalizing boiler feed pump, complete line of textile plant scales, Causul metal valves designed for caustic and sulphuric acid in the dyehouse, solder-end valves, valves with lubricated plug cock on the valve, powered system of floor scrubbing, waxing and polishing machinery, hack saw blades, portable air conditioner and stencil machines.

Both solid and duplex copper rolls for printing machines were at the show, the duplex made so that it is not necessary to scrap the old roll. The same company showed copper tubing for plumbing and tubing lines.

One company had a display of coal, showing the various sizes of lump and powdered coal available, and offering the service of supplying the mill with exactly the type coal suited to its purpose.

A complete line of counters, pick counters, meters, etc., were on display. A new feature was the cut meter which is set for a predetermined length of cloth and which stops the loom at the proper place for the loom to be doffed.

Traverse card grinding equipment was running with the patented differential motion, the two-way adjustable stand and boxes, and solid self-oiling hub.

The new card stripping device is said to decrease considerably the number of card stripping operations, decrease loss of production, variation in sliver, and eliminate damage to the card. Another feature was the electro psychrometer for instant moisture determination of fibers, yarns, and fabrics.

The laboratory men showed interest in the micro-photographic equipment and the polaroid for polarizing, used in fiber investigation.

Space forbids description of each and every exhibit but the foregoing gives in a brief outline many of the exhibits shown at the 13th Southern Textile Exposition. It is a worthy institution and only by visiting it can the true value be realized.

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Phi Psi Convention Held in Atlanta

The 36th annual convention of *Phi Psi*, the international textile fraternity, was held at the Biltmore Hotel, Atlanta, Ga., on March 31-April 1. Approximately 100 delegates from practically all of the active and alumni chapters, as well as several honorary members, were present.

The convention was devoted to affairs of the fraternity and social activities. J. Ellsworth Fite, Jr., of Philadelphia, grand president and one of the five charter members of the organization, presided, assisted by A. Kempton Haynes, of Atlanta, grand vice-president; Theo. H. Thomas, of Bennington, Vt., grand secretary; and Alex Stohn, of Boston, grand treasurer.

The annual banquet on Saturday evening closed the convention. Robert W. Philip, editor of COTTON, Atlanta, was toastmaster. Mr. Fite and M. L. Brittain, president of the Georgia School of Technology, were the speakers.

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Ed Kempton Forms Own Business

Ed S. Kempton, for many years general manager of Mill Devices Co. and Carter Mills, has formed the Kempton Parts and Spring Co., Box 767, Gastonia, N. C. The new firm will distribute unpatented special machine parts, small screws, nuts, bolts, washers, bearings, bushings, guides, textile specialties and springs of every description, carrying a large stock of special springs, bearings and parts. Mr. Kempton will continue to call on the textile mills in his new capacity.

Positive Identification by Sheet and Pillow Case Group

At a meeting of the sheet and pillowcase group of The Association of Cotton Textile Merchants of New York held March 15, it was unanimously voted: After July 1, 1939, to make no shipments of sheets and pillowcases below first quality grade without positive identification on each article to prevent any confusion with first quality product.

The description of inferior grades be limited to a choice between irregulars, second quality, second selection, seconds, and that such description be plainly marked on the face of each article, whether included in the label proper or affixed as a supplementary label.

The application of these rules are equally effective on proprietary and customer brands. Also, the descriptive expressions "run of the mill" and "run of the loom" are unwarranted and misleading when applied solely to gradings inferior to first quality merchandise.

All producers, distributors and dealers are urged to cooperate wholeheartedly in this voluntary industry-wide action to outlaw a practice which has the capacity to deceive consumers.

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Manchester Exhibition Excellent

According to reports and comments on the "Textile Recorder" exhibition of machinery held in Manchester, England, last October, it was excellently managed and attracted interesting visitors from all parts of the globe.

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Cotton Talks

At the National Farm Chemurgic Conference, held in Jackson, Miss., from March 29 through April 1, cotton held the spotlight. Oscar Johnston, head of the National Cotton Council, led the discussions. Among the factors brought to light by the various speakers were: 1. Washington has the heart of the farmer at heart, but has conflicting desires as to how to help the cotton producer. 2. National Cotton Council will seek to promote trade agreements between U. S. and other nations. 3. Cotton will undergo intensive research at a new laboratory to be opened at New Orleans soon, based on characteristics, properties to make cotton desirable, processing, and a study of cotton linters. 4. What to do with land formerly used in growing of cotton? 5. Proposal for completely overhauling cotton classing and grading system to meet modern needs. 6. Method for producer and consumer to meet to solve their common problems as concerns cotton. 7. Development of new uses for cotton through research. 8. Cotton to be used for building of roads.

Reorganized Alabama Association Holds First Annual Convention in Mobile

THE Alabama Cotton Manufacturers Association held its first annual meeting since its reorganization some 18 months ago on March 16 and 17, at the Battle House Hotel, in Mobile, Ala. There was a fine attendance of Alabama mill men and visitors, with a total of 110 registrations in addition to a number of ladies.

R. W. Jennings, superintendent of the Lanett (Ala.) Mill Division of the West Point Manufacturing Co., president of the association, presided, assisted by Dwight M. Wilhelm, who is executive secretary of the association, with headquarters in Montgomery, Ala.

In the annual election of officers, Paul A. Redmond, president of Alabama Mills, Inc., Birmingham, Ala., was named president of the association succeeding Mr. Jennings. Joe L. Lanier, assistant treasurer, West Point Mfg. Company, succeeds Mr. Redmond as association vice-president. Mr. Wilhelm was re-named as executive secretary; and a treasurer to succeed Mr. Lanier will be named by the board of directors, which consists of:

Three-year terms: R. P. Clark, Standard-Coosa-Thatcher Co., Gadsden, Ala.; B. B. Comer, Jr., Avondale Mills, Birmingham, Ala.; and George S. Elliott, Dallas Mfg. Co., Huntsville, Ala. *Two-year terms:* Allan Little, Dwight Mfg. Co., Alabama City; R. H. Gray, Goodyear Decatur Mills, Decatur; and G. Arthur Cook, West Boylston Mfg. Co., Montgomery. *One-year terms:* Comer Jennings, Cowikee Mills, Eufaula; Benj. C. Russell, Russell Mfg. Co., Alexander City; and R. A. Wells, Bemis Bro. Bag Co., Talladega, Ala.

At the Mobile convention, President Jennings was the first chief speaker at the opening session on Thursday, March 16. He reviewed the history of the association, including its recent re-organization, and reported "a general attitude of sympathetic understanding of and co-operation with our aims and objectives toward a closer co-ordination and greater utilization of the major elements in our state's life for developing better mutual relationships and the creation of greater happiness, security and prosperity for our state and its people as a whole." He urged a closer co-operation between the manufacturers and farmers of the state; and greater attention to industrial and public relations. He stressed the importance of developing the mills' superintendents and foremen, saying:

"I feel very strongly that we could, with profit, give individual and concerted attention to the training of our operating executives—the superintendents, overseers and other supervisory personnel in our mills. They are, after all, the key points in the operation of our plants. Their standards, their attitude, their methods, their leadership or lack of it, after all set the pace of our plant and personnel efficiency and influence more than anything else the morale of our organizations. Anything that is done to elevate their standards, broaden their viewpoints and improve their efficiency, will certainly be reflected throughout our entire organization."

Claudius T. Murchison, president, The Cotton-Textile Institute, followed Mr. Jennings. He praised the re-organization of the Alabama association as one of the outstanding developments of the last year in the industry. He stated that the Federal government intends that any revision of the nation's tax structure shall be in favor of industry and trade and will encourage business to expand and prosper.

Mr. Jennings Mr. Wilhelm Mr. Redmond

John V. Denson, attorney, of Opelika, was the final speaker of the session, discussing tax and other legislative problems of Alabama.

Golf and Other Entertainment

Golf, visits to the Bellingrath and other gardens around Mobile, and boat trips on Mobile Bay, were enjoyed during Thursday afternoon. Thursday evening, the banquet was held, with George S. Elliott as toastmaster. Karl Landgrebe, vice-president of Tennessee Coal, Iron and Railroad Co., Birmingham, spoke, giving a comprehensive review of the economic conditions underlying the industrial and agricultural structure of Alabama and discussed problems common to the southern industrial states. James Simpson, state senator, of Jefferson County, discussed state legislative matters.

Golf prizes and ladies' attendance prizes, provided by the delegates representing allied companies, were distributed at the banquet.

The final session of the convention, on Friday morning, constituted the business meeting, with reports from the treasurer, Mr. Lanier, and Executive Secretary Wilhelm. Sam F. Clabaugh, executive vice-president of the Southern States Industrial Council, was a speaker.

Resolutions approving the principles of the Smith Bill for disposing of the cotton surplus; paying tribute to the memory of Neil P. Sterne, for many years counsel for the association; urging economy in government; approving the activities at Alabama Polytechnic Institute toward cotton improvement—were adopted. At the Thursday evening banquet, a beautiful watch was presented to Scott Roberts, for many years head of the association, in appreciation of his work in this connection.

ON THE DOCKS AT MOBILE BAY DURING THE ALABAMA MEETING
Left to right: Mrs. Dwight Wilhelm, Mrs. W. H. Randolph, Jr., Dr. Claudius Murchison, Mrs. Rube Jennings, Sr., Mrs. John C. Turner, Capt. Joe Crenshaw, Mrs. George Elliott, Miss Addie Elliott, John O'Neill, Mrs. O'Neill, Miss Marguerite Rogers, Miss Helen Elliott, Mrs. Ed G. Merritt, and Mr. Merritt.

(See also page 104)

Selection of Leather Belts*

THE AMERICAN LEATHER BELTING ASSOCIATION has prepared horsepower ratings tables for oak-tanned flat leather belting, making it possible for the designer and purchaser to set up his own specifications. The Association, a universally recognized authority, has based the tables on the performance of modern up-to-date belting, correlating it upon scientifically measured tests and field data.

Table I lists horsepower transmission capacities for belts one inch in width at varying speed with the same given large size pulley throughout the tests. The figures in this table do not represent peak load ratings, but are based on proper tensions and factors of safety, so that when corrected through the factors in Tables II and III, a properly designed drive will result. It will be noted that the horsepower transmitted in inch of width increases with the speed of the belt.

Important: It is always essential that values in Table I be corrected by values in Table II and Table III. In no instance should a belt rating be taken from

TABLE I

HORSE POWER PER INCH OF WIDTH

BELT SPEED FEET PER MIN.	SINGLE PLY		DOUBLE PLY			TRIPLE PLY	
	*11/64"	*13/64"	*18/64"	*20/64"	*23/64"	*30/64"	*34/64"
	MEDIUM	HEAVY	LIGHT	MEDIUM	HEAVY	MEDIUM	HEAVY
600	1.1	1.2	1.5	1.8	2.2	2.5	2.8
800	1.4	1.7	2.0	2.4	2.9	3.3	3.6
1000	1.8	2.1	2.6	3.1	3.6	4.1	4.5
1200	2.1	2.5	3.1	3.7	4.3	4.9	5.4
1400	2.5	2.9	3.5	4.3	4.9	5.7	6.3
1600	2.8	3.3	4.0	4.9	5.6	6.5	7.1
1800	3.2	3.7	4.5	5.4	6.2	7.3	8.0
2000	3.5	4.1	4.9	6.0	6.9	8.1	8.9
2200	3.9	4.5	5.4	6.6	7.6	8.8	9.7
2400	4.2	4.9	5.9	7.1	8.2	9.5	10.4
2600	4.5	5.3	6.3	7.7	8.9	10.3	11.0
2800	4.9	5.6	6.8	8.2	9.5	11.0	12.1
3000	5.2	5.9	7.2	8.7	10.0	11.6	12.8
3200	5.4	6.3	7.6	9.2	10.6	12.3	13.5
Minimum Pulley Diameters — Belts Under 8" Wide	3"	5"	6"	8"	12"	20"	24"
Minimum Pulley Diameters — Belts 8" & Over Wide	5"	7"	8"	10"	14"	24"	30"
These are the minimum allowable pulleys for the above thickness belts.							

BELT SPEED FEET PER MIN.	SINGLE PLY		DOUBLE PLY			TRIPLE PLY	
	*11/64"	*13/64"	*18/64"	*20/64"	*23/64"	*30/64"	*34/64"
	MEDIUM	HEAVY	LIGHT	MEDIUM	HEAVY	MEDIUM	HEAVY
3400	5.7	6.6	7.9	9.7	11.2	12.9	14.2
3600	5.9	6.9	8.3	10.1	11.7	13.4	14.8
3800	6.2	7.1	8.7	10.5	12.2	14.0	15.4
4000	6.4	7.4	9.0	10.9	12.6	14.5	16.0
4200	6.7	7.7	9.3	11.3	13.0	15.0	16.5
4400	6.9	7.9	9.6	11.7	13.4	15.4	16.9
4600	7.1	8.1	9.8	12.0	13.8	15.8	17.4
4800	7.2	8.3	10.1	12.3	14.1	16.2	17.8
5000	7.4	8.4	10.3	12.5	14.3	16.5	18.2
5200	7.5	8.6	10.5	12.8	14.6	16.8	18.5
5400	7.6	8.7	10.6	12.9	14.8	17.1	18.8
5600	7.7	8.8	10.8	13.1	15.0	17.3	19.0
5800	7.7	8.9	10.9	13.2	15.1	17.5	19.2
6000	7.8	8.9	10.9	13.2	15.2	17.6	19.3
Minimum Pulley Diameters — Belts Under 8" Wide	3"	5"	6"	8"	12"	20"	24"
Minimum Pulley Diameters — Belts 8" & Over Wide	5"	7"	8"	10"	14"	24"	30"
These are the minimum allowable pulleys for the above thickness belts.							

*NOTE: See Table IV.

For Belt Speeds Over 6000 Feet Per Minute. Consult a Leather Belting Manufacturer.

TABLE II

CORRECTION FACTOR FOR CENTER DISTANCE AND SMALL PULLEY DIAMETER

Diameter Small Pulley Inches	CENTER DISTANCE IN FEET															
	Up to 4'		6'		8'		10'		12'		15'		20'		25' & Over	
	Tight Side		Tight Side		Tight Side		Tight Side		Tight Side		Tight Side		Tight Side		Tight Side	
	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW	ABOVE	BELOW
3"	.45	.45	.46	.47	.47	.48	.47	.49	.48	.50	.49	.52	.48	.54	.48	.55
4"	.53	.53	.54	.55	.55	.57	.56	.59	.57	.61	.58	.63	.59	.65	.59	.66
5"	.59	.59	.60	.62	.62	.64	.63	.66	.63	.68	.65	.70	.66	.72	.66	.74
6"	.62	.62	.63	.65	.65	.68	.66	.70	.67	.72	.68	.74	.69	.76	.70	.78
8"	.66	.66	.67	.69	.69	.72	.70	.74	.71	.76	.72	.78	.73	.80	.74	.82
10"	.68	.68	.70	.71	.71	.74	.73	.77	.73	.79	.75	.81	.76	.83	.77	.85
12"	.70	.70	.72	.74	.73	.77	.75	.79	.76	.81	.77	.83	.78	.86	.79	.88
15"	.73	.73	.74	.76	.76	.79	.77	.82	.78	.84	.80	.86	.81	.89	.82	.91
18"	.75	.75	.76	.78	.78	.81	.79	.84	.80	.86	.82	.89	.83	.91	.84	.93
24"	.77	.77	.79	.81	.81	.84	.82	.87	.83	.89	.85	.92	.86	.94	.87	.96
30"	.79	.79	.81	.82	.82	.86	.84	.89	.85	.91	.87	.94	.88	.96	.89	.98
36"	.80	.80	.82	.84	.83	.87	.85	.90	.86	.92	.88	.95	.89	.98	.90	1.00

Consider gravity idler and pivoted motor drives with tight side of the belt next to the pivot point as having 25 foot centers. For pivot base drives where tight side of the belt is away from the pivot point, do not use these tables but consult a Leather Belting manufacturer.

TABLE III

SERVICE CORRECTION FACTORS

Atmospheric Condition	Clean, scheduled maintenance	1.2
	Normal	1.0
	Oily, wet or dusty	.7
Angle of Center Line	Horizontal to 60 degrees from horizontal	1.0
	60 to 75 " " "	.9
	75 to 90 " " "	.8
Pulley Material	Fibre on motor and small pulleys	1.2
	Cast iron or steel	1.0
Service	Temporary or Intermittent	1.2
	Normal	1.0
	Important or continuous	.8
Peak Loads	Light, steady load such as: steam engines, steam turbines, Diesel engines, and multi-cylinder gasoline engines	1.0
	Jerky loads, reciprocating machines such as: normal starting torque squirrel-cage motors, shunt wound D. C. motors, and single cylinder gasoline engines	.8
	Shock and reversing loads, full voltage start such as: wound rotor (slip ring) motors, synchronous motors	.6

TABLE IV

THICKNESS SPECIFICATIONS
FOR
FLAT LEATHER BELTING

APPROVED AND ADOPTED BY AMERICAN LEATHER BELTING ASSOCIATION

Medium, Single Ply, 11/64" Average Heavy, Single Ply, 13/64" Average	"All thicknesses in this table are average thickness in inches, and should be determined by measuring 20 coils and dividing this total by the number of coils measured. In rolls of belting containing less than 20 coils, the average thickness should be determined by measuring all the coils in the roll. Allowable tolerances for all thicknesses plus or minus 1/64th inch from above averages."
Light, Double Ply, 18/64" Average Medium, Double Ply, 20/64" Average Heavy, Double Ply, 23/64" Average	
*Medium, Triple Ply, 30/64" Average *Heavy, Triple Ply, 34/64" Average	Uniformity: No point in single belting shall be more than 3/64" thicker or more than 2/64" thinner than the average thickness. With doubles, the tolerances shall be 2/64" thicker or thinner than the average.

*TRIPLE PLY: These are averages for general usage. Most triple ply belts are usually constructed for particular drive conditions. *Tolerances for Single and Double Ply Belts do not apply.* Consult a Leather Belting Manufacturer for specific information concerning thickness and construction of 3 Ply Belts.

any one table without using the proper correction factor from the other two to compensate for the individual condition surrounding the particular application.

When gravity idlers and pivoted motor bases are used, the factor for center line distances of 25 feet and over can be substituted for the effect of controlled tensions in pivoted bases and increased effective area of the gravity idler. Conditions in isolated cases exist which may not be covered by tables; exceptions must be made in those instances.

Where speeds over 6,000 feet per minute are reached, the tables do not apply; it is then necessary to consult a belting manufacturer.

It is also pointed out that for satisfactory belt service, proper tension must be maintained.

Directions for use:—To find width of belt required, divide name plate reading of prime mover or nominal load by values in Table I, Table II, Table III. (See example 1). To find rating of a belt, multiply belt width by values in Table I, Table II, Table III. (See example 2).

*By L. H. Skougor, research engineer, American Leather Belting Association, 100 Gold Street, New York City. The tables appearing in this article have application to horsepower ratings for oak tanned flat leather belting.

To use tables:

EXAMPLE NO. 1

PROBLEM: Select belt for following drive—

Motor—10 h.p., 1750 r.p.m., line start, induction. Pulley 6-inch diameter x 6¾ inches face, fiber.

Compressor—Started automatically against pressure. Pulley 30-inch diameter x 6½-inch face.

Conditions—Tight side of belt below, pulleys 6 feet center to center, center line approximately horizontal, important refrigeration service, normal atmospheric conditions.

SELECTION OF FACTORS:

$$\text{Belt Speed} \frac{6 \times 3.14 \times 1750}{12} = 2750 \text{ feet per minute.}$$

From Table I, LIGHT DOUBLE BELT suited for 6-inch diameter pulley.

From Table I, LIGHT DOUBLE BELT will transmit 6.7 h.p. per inch of width at 2750 f.p.m.

From Table II, FACTOR for center distance and small pulley diameter = .65.

From Table III,

Atmospheric condition	1.0
Angle of center line	1.0
Pulley material	1.2
Service	.8
Peak load	.6

CALCULATION:

$$\frac{10}{6.7 \times .65 \times 1.0 \times 1.0 \times 1.2 \times .8 \times .6} = 3.99 \text{ inches.}$$

Therefore, use 4 inches LIGHT DOUBLE BELT.

EXAMPLE NO. 2

PROBLEM: Determine capacity of 8-inch Heavy Double Belt on following drive—

Lineshaft—200 r.p.m., 48-inch diameter x 12-inch face cast iron pulley.

Fan—600 r.p.m., 16-inch diameter x 12-inch face cast iron pulley, requiring 35 h.p. at this speed.

Conditions—Tight side above, 16-foot centers, drive nearly vertical, 8 hours per day operation, exhausting from woodworking shop, dusty conditions.

SELECTION OF FACTORS:

$$\text{Belt Speed} \frac{48 \times 3.14 \times 200}{12} = 2500 \text{ f.p.m.}$$

From Table 1, HEAVY DOUBLE BELT is suited for 16 inches diameter pulley.

From Table I, HEAVY DOUBLE BELT will transmit 8.55 h.p. per inch of width at 2500 f.p.m.

From Table II, FACTOR for center distance and small pulley diameter = .80.

From Table III,

Atmospheric condition	.7
Angle of center line	.8
Pulley material	1.0
Service	1.0
Peak load	1.0

CALCULATION:

$8. \times 8.55 \times .80 \times .7 \times .8 \times 1.0 \times 1.0 \times 1.0 = 30.6$ h.p.

Therefore, belt not suited for 35 h.p. load.

NOTE: This belt can be used if any one of the following changes are made—

1. Use fiber pulley on fan.
2. Reduce angle of drive to 60 degrees from horizontal.
3. Protect drive from dust.
4. Increase pulley diameters to 60 inches and 20 inches.

If it is not practical to change the drive, use a 10-inch HEAVY DOUBLE BELT.

As I See It

I have noticed that, for most people, it is easy to be good when one has to be good.

To be good when it is left entirely to one's own choice, however, requires a much higher type of character.

This same principle, I believe, applies to a supervisor dealing with his workers.

When jobs are plentiful and workers can be a bit independent, 'most every supervisor tries to treat his help considerately, tactfully, and humanely.

But, when times change and jobs get scarcer, then is the time when the really high class supervisor refuses to take advantage of his men. He goes right on treating his men considerately, tactfully, and humanely.

—Glenn Gardiner in "Management Information", Elliott Service Co., Inc.

Handling of Spun Rayon Discussed at Charlotte

THE PIEDMONT DIVISION of the Southern Textile Association held its spring meeting at the Chamber of Commerce building, Charlotte, N. C., Saturday morning, April 22, with B. M. Bowen, superintendent, Salisbury (N. C.) Cotton Mills, presiding, and Marshall Dilling, secretary-superintendent, A. M. Smyre Manufacturing Company, Ranlo, N. C., leading the discussions. A large crowd was not present, but some interesting pointers were exchanged in the brief meeting on the processing of spun rayon. Most of those present had visited the Southern Textile Exposition at Greenville during the first week in April, and much of the discussion was devoted to what was seen at this show. A complete report of equipment and exhibits at the Exposition appears on page 74 of this issue, so this part of the discussion is not recorded here.

The first question asked for the break draft used on long draft roving frames, but no one present uses break drafts on their long draft roving frames; in a few instances it was stated that the break draft was only that caused by the thickness of the leather apron.

In the discussion of running spun rayon, J. L. Brannan, Hermitage Cotton Mills, Camden, S. C., suggested the use of tapered pins on the picker. He also finds the use of a No. 3 evener on the side of the hopper assists in giving a better lap at the picker. For the hopper apron, it is considered good practice to place the pins closer together (one-half inch) and use a finer pin. He also turns his grid bars upside down to prevent damage to the rayon and to prevent excessive waste; this method is practical because there is no cleaning to be carried out on the spun rayon fiber. Mr. Brannan has always bought his rayon cut to the proper staple, but believes it is a better practice for the mill to secure a staple cutter so that the mill itself can control the length of the staple.

A question was asked regarding the proper length of staple rayon to mix with certain grades and staples of cotton. An experience was given of using 1-inch Middling cotton with 1½-inch rayon staple, mixing it 50-50 to be dyed; this had a good background but the "feel" was of cotton, an undesirable feature on the particular fabric. Next was tried the 50-50 mix using 1¼-inch cotton and 1½-inch cut staple, which improved the feel but did not give the desired product. Finally the mix of 1¼-inch cotton and 1¼-inch rayon solved the problem.

J. O. Williams, Shelby (N. C.) Cotton Mills has discovered that the more rayon staple is worked, or the more it is processed, the better fabric it gives and the easier it becomes to make a satisfactory processing material for the plant to run: it was also pointed out that the less cotton is worked the better it is. He especially emphasized that cut staple does not run as well on single-process pickers as on the old two- and three-process methods. He uses a Kirschner beater with three processes of picking and gets a good mix when it is necessary to blend rayon and cotton. He finds that travelers last only about half as long when running pure spun rayon as compared with cotton. He runs three shifts and changes the traveler every 5 days on 44s. The light spinning roller is employed and he finds it helpful in operating if there is no variation in length of cut staple fibers, or much difference in length of cotton and staple fibers when running a blend. For fine numbers he uses double roving in spinning, but single on coarse counts. The luster of the rayon fiber is specified by the customer, but he sees no difference after the fabric has been finished. He is getting satisfactory service from his short draft machines on rayon by not drafting over 7 in the card room and not over 12 in the spinning room (double creel). Mr. Brannan uses the slip drafting roll and on 25s drafts 20½ single roving and on 30s he drafts 16.66, using 1½ denier and 1½ staple rayon, and finds that the rayon runs better than Sea Island cotton of the same length. For the warp he uses a twist of 3.5 and for filling 2.75; he did cut the spinning speeds from 9600 r.p.m. to 8000 r.p.m.

On the subject of waste from spun rayon and its disposal, one man advised that he has his machines set so there is not a handful of waste around the card, but uses the waste that finally does accumulate from all the processes back at the picker, except that it does not go into very fine goods. Another method for handling waste was given: After pointing out that slowing the flats does more damage to cards than running them at normal speeds, the group was told of changing the stripper brush device so that instead of making strips on the front of the card, the strippings from the flats drop back onto the licker-in apron and are fed directly back into the lap at the licker-in. A caution on this point is that the drafts are of course changed and the card should be adjusted for this. This method also slightly lowers the breaking strength of the yarn, but not enough to reduce the value of the product. For preventing cards loading up, it was suggested that two-processes of picking be used; also, the loading up sometimes depends on the condition in which the rayon is received.

The question of using oil on rayon was raised, and one successful man said that he uses nothing. Another man said that he has had difficulty where oil was used on it. It is, however, important that the proper humidity be kept in the picker room.

On the subject of tinting rayon to identify it later on, a member said that he uses several humidifier heads at the back of his openers and simply sprays the stock the color he wishes to tint it at this point.

For sizing spun rayon, one man does not change his size mix when using rayon or when using cotton; he uses the same mix for both, made from corn starch. He prevents his rayon selvage from going into the size box, but simply allows it to go under the last squeeze roll. He notes that there is less shedding in the weave room from rayon as compared with cotton; for weaving he uses both the tape and plain selvage.

Close or open settings on the card when mixing rayon and cotton was brought up; Mr. Williams advised that the best answer to this question is to buy good cotton as free from trash as possible, and this point need not be a bother. Another member double cards his cotton, mixing with rayon after carding once and then carding it again with the rayon.

No one present was in favor of blending the rayon and cotton at the drawing frames, as it was held that the blend is not good enough.

Discussion next followed on the grinding of cards when using rayon staple. Mr. Brannan has discovered that it is better to grind cards more often on rayon than with cotton as the rayon tends to dull the points. He strips every two hours.

The remainder of the meeting was taken up with discussion of new equipment seen at the Southern Textile Exposition.

All officers of the section were re-elected for the ensuing year.

Reported by John C. Fonville.

MODERN METHODS OF DYEING

By Edward W. Pierce*

BOTH **acid dyes containing metals** and **chrome mordant dyes** are covered in this, the sixth installment of this valuable series by Dr. Pierce. The next installment will cover sulphur colors. The footnote below lists the subjects discussed in preceding installments, copies of which are available upon request so long as the supply lasts . . . .

Article 6

Acid Dyes Containing Metals

IN DISCUSSING direct dyestuffs**, mention was made of the after-treatment of the dyeings with metallic salts, which increased the fastness of the color toward both light and washing. When several direct dyes were made containing metals as a component part and these were seen to have increased fastness properties, it became a matter of great interest and attempts were made to incorporate various metals into many classes of dyes, with this end in view.

One of the first classes of acid dyes to be made with a metal component utilized copper, which certainly imparted a much greater degree of fastness toward exposure to light. Acid dyes of this sort enjoyed quite a term of popularity, but later gave way to a much better series which contained chromium and nickel. Azo dyestuffs properly combined with chromium, so that they form definite chemical compounds, exhibit most of the dyeing properties of ordinary acid dyes, except that the dyeing process has to be modified slightly in order to develop their best qualities. It is customary to start the dyeing at a lower temperature with about 3 per cent of sulphuric acid, it still being a question whether Glauber's salt is needed or not, then the temperature is raised to 140 degrees F. and held there until the bath is nearly exhausted. At this temperature the dyestuff is affixed to the wool fibers just like an ordinary acid dye and levels and penetrates as well as we would expect when dyeing at a full boil. Then a further 3 per cent of acid is added and the bath brought up to a full boil, which is continued for an hour and a half.

After the second addition of acid and the prolonged boiling, the original compound of dye and chromium, which was water soluble, seems to have been re-arranged, so that the chromium unites with the wool fiber and the coloring matter then unites with the chromium again, in the manner of a mordant dye. While the finished dyeing is really a chrome mordanted color, yet the high degree of fastness to fulling, characteristic of a chrome mordanted color, is not attained, although the fastness to washing and light milling is much superior to any acid dye. On the other hand the fastness-to-light generally surpasses that of similar shades made with chrome dyes. Great light fastness among chrome dyes is mostly confined to the true alizarines and the duller colors, while the most brilliant of the chrome series are noted more for their fastness to fulling than for light fastness.

Beside the fastness-to-light and a reasonably good fastness-to-washing, dyestuffs containing chromium also show a resistance to perspiration, sea water and various staining influences which affect the acid dyes so disastrously. The use of these chromium-azo dyestuffs on carpet and rug yarns is very interesting. It has long been the custom to give the true Oriental rugs a special wash to intensify the luster of the wool. The wash consists in treating the rug first with a caustic soda solution, then with chlorinated lime, followed by water and a souring with acetic acid. Acid dyestuffs are so badly bleached out by this process that they cannot be used to dye the yarns of the domestic imitations of the Orientals; the regular chrome dyes are satisfactory, but lack in brightness or else in fastness-to-light, but the chromium-azo dyestuffs may be dyed by the one-bath process, giving full production, and put through the Oriental wash with scarcely any loss of color. A further advantage is that when the rug is in use, there is no danger of it fading or being discolored by the many household accidents that may occur at any time. The largest of the trans-Atlantic liners use rugs and carpets dyed in this manner and after several years of use report them to be as brilliant as when they were new.

Another important use of these dyes is in dyeing yarns intended for knitting bathing suits and athletic goods. Reports have been received that bathing suits dyed with chromium-azo dyestuffs were worn by the life guards at a resort on the Mediterranean for an entire season, and at the end of that time, the colors had not faded nor had any color run into the white stripes which had been knit into the fabric. In Europe as well as in Canada there are produced many fine fancy worsted and woolen half-hose for men; here these dyestuffs find great use, since the shades are not only brilliant, but very fast-to-light and perspiration and of good fastness to domestic laundering.

Objections have been raised concerning the larger amount of sulphuric acid necessary for dyeing, but it should be remembered that wool will take up only about 5 per cent of its weight of sulphuric acid, the rest remaining in the bath. This amount of acid will not harm wool, in fact it is the same amount that is used to sour wool prior to printing yarns for tapestry

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**See Article 4, page 65, March, 1939, COTTON.

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(This series comprises abstracts of lectures delivered for several consecutive years to students in the art of dyeing, revised to adapt them to the general textile reader. The first installment, on page 48 of the December, 1938, issue of COTTON, began the series with a discussion of colors and a development of the color sense. The second article, on page 48 of the January issue, described the various types of textile fibers and their dyeing characteristics, and outlined the general types of equipment for dyeing loose fibers, yarns, and piece goods. The third article, on page 92 of the February issue, covered the basic dyestuffs, the fourth, page 65, March issue, discussed the direct colors, and the fifth, page 101, April issue, covered acid dyes and their applications.)

carpets. Another objection is that there are neither brilliant blues nor greens in this series. There are fairly bright blues and greens but none of the very brilliant tones, such as we associate with the more fugitive classes of colors. This deficiency is not so very serious and is likely to be remedied in course of time, there is still a wide field of usefulness as the demand for such brilliant shades forms only a small part of the total business done in any line of fabrics.

Useful in Vigoreux Printing

There is a branch of the worsted business that has fallen into some neglect in recent years, that is, vigoreux printing. It was formerly done by printing stripes across worsted slubbing with chrome mordant colors and chromium acetate, yielding fast colors that could be gilled into a perfect smooth mixed effect. With the chromium-azo dyestuffs this field again becomes of interest, because it is now possible to first gill together worsted and rayon cut staple fiber and then print it in one operation with these dyestuffs. The shades will stand a washing or a very moderate fulling, but not a severe fulling, generally enough for a fine worsted and frequently as much as the cut staple fiber itself can stand. The entire line can also be used to print wool, mohair, silk or rayon and any mixture of these fibers, yielding shades that are only excelled by vat dyes in their fastness to light.

These colors have been found very useful for piece dyeing both men's and women's wool and worsted dress fabrics, leaving effects of viscose or acetate rayon untinted. Since they are also fast to perspiration and staining they produce very satisfactory garment materials. Lately attempts have been made to introduce fabrics with ground shades dyed with these colors, ornamented with colored discharges made with vat dyes. A print of this sort will be more permanent than any style that has heretofore been made on wool fabrics.

Still another use for this type of dyestuff is in dyeing reasonably wash-fast shades on silk from a formic acid bath. These also may be printed with vat dyes and have the advantage of having a ground shade that is as fast to light as the pattern, whereas the ordinary prints made on a developed ground are not very fast to light.

Manufacturers of glove leathers find these dyes useful for making wash leathers, which are also fast to light.

Chrome Mordant Dyes

The transition from natural or wood dyes to the artificial or synthetic dyestuffs carried with it many of the older processes of application. The use of a chrome mordant was one which has survived and is still in use today. Chrome mordanting of wool was a necessary step in the dyeing of logwood. The wood was first chipped and allowed to lie in a moist state until aged, then extracted with water and boiled down to a thick liquid, which was sold as logwood extract. This simple extract was more suited for cotton dyeing than for wool, because it consisted mostly of Hematoxylon, the un-oxidized coloring matter, although later it became the custom to oxidize it chemically to produce a greater proportion of the oxidized coloring matter, known as Hematine.

In either case there was such a large amount of un-oxidized matter that it was necessary to produce another step in the oxidation by means of the mordant. Mordants were made by simply boiling the wool with bichromate and sulphuric acid; this affixed on the wool free chromic acid, which underwent a slight reduction at the expense of the wool itself, but still retained a considerable amount of oxidizing ability, just what was needed to develop the full coloring power of the logwood.

Later it became the custom to add reducing substances in the preparation of the mordant, such as tartar, oxalic acid, lactic acid and finally formic acid. These gave mordants which were not as oxidizing in their action as the old mordant, but which are still not the best suited for dyeing the artificial dyestuffs. There was a mordanting process, known as the Amend process, where the wool was first treated in a moderately warm bath with chromic acid and then reduced in another cool bath with sodium bisulphite and acid. This gave a fully reduced chrome mordant, which was probably a basic chromium sulphate, closely resembling the one-bath tan liquor used for leather. A mordant of this sort is capable of affixing a mordant dyestuff, without exerting the slightest degree of oxidizing action and, of course, has a minimum of corrosive action on the wool fiber. From this it can be seen that there is quite a different action to be expected from mordants that are oxidizing in nature and those which are not oxidizing, depending also on the sort of dyestuff which is being dyed.

Alizarine, a typical chrome mordant dye, was known in its natural state as madder by the old wood dyers and represents one of the earliest natural coloring matters to be made artificially. It was dyed on cotton, using a lime and alumina mordant; the lengthy process resulting in the famous Turkey Red. It was also applied to wool and silk, using both alumina and chrome mordants. Alizarine, as well as its group as a whole, is insoluble in water and is taken up by the mordanted fiber from its suspension in the dyebath, when it forms an insoluble chromium lake, fast to light and fulling. An improvement in the original form of Alizarine dyes is to be found in the "S" types, which are the sodium bisulphite compounds and are soluble in water. It is this type of mordant dye which is so adversely affected by a strongly oxidizing mordant, for the free chromic acid will destroy the bisulphite, causing the coloring matter to separate as an insoluble precipitate, leading to streaky dyeings, which are likely to crock badly.

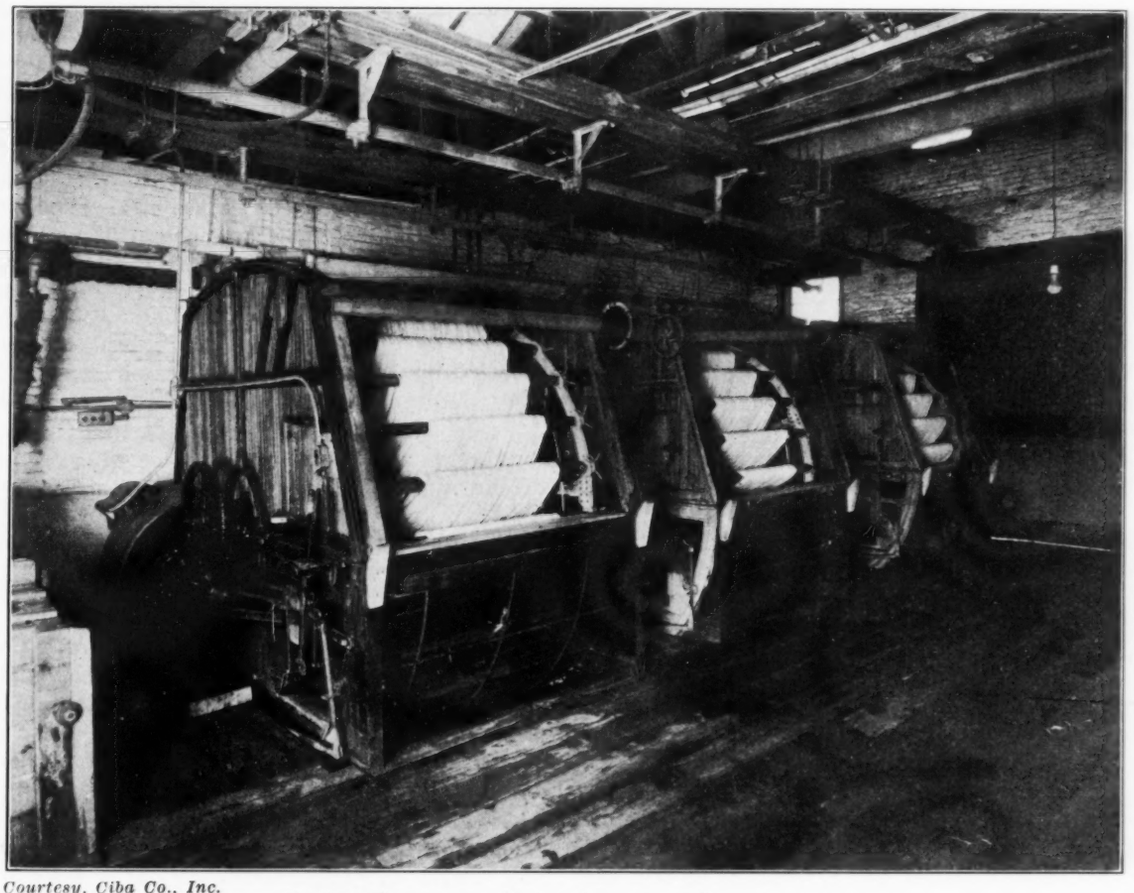
Then we have a series of chrome mordant colors, of which the dye known as Gallocyanine is the best representative. These are all bisulphites and cover a great variety of blues and violets, which are more used today for cotton printing than for wool dyeing, as they generally resist being destroyed by hydrosulphites and so may be used for colored discharges.

The greater number of chrome mordant dyes are azo dyestuffs, which depend on the oxidizing action and union with chromium to develop fully their col-

oring power. These chrome colors usually may be dyed in any one of three methods, viz., on a chrome mordant, with bichromate in the same bath with the dye, or first dyed acid and then after-chromed. Usually any given dye will prove best by one of these methods and not quite as efficient by the other processes. As a rule the shade produced by an acid dyeing will be weak and thin in comparison with the shade developed by chroming and a large number of these colors dye an entirely different shade in an acid bath, generally tones of reds and reddish violets. The colors which undergo such radical changes of shade are seldom suited for dyeing in the one-bath process, which is called the metachrome, monochrome or the chromate method, neither are they so well suited for dyeing on a chrome mordant. Apparently the oxidizing effect of the after-chroming is necessary for the best development of the shade. Shades dyed on a chrome mordant may be examined directly and brought up to the proper shade by additions, but when using the after-chrome method, it is necessary to develop a small sample to note the progress of the dyeing.

Dyeing wool with chrome mordant colors calls for great care on the part of the dyer, for if the lot is uneven or too full in shade, the color cannot be made even or stripped off by longer boiling in a fresh bath, because the dyestuff has become an insoluble chromium lake, firmly fixed in the substance of the wool fiber. Except in the cases where the dyeing has been made on a fully reduced chrome mordant, there is bound to be left some unreduced chromic acid, which naturally imparts a slight yellowish tint to the dyeing, whether its presence is recognized or not. When the dyeing is exposed to light, the unreduced chromic acid then is reduced by the wool substance as well as the dyestuff and the dyeing will turn a shade greener, making it appear that the dyestuff was not entirely fast to light. This condition is overcome by finishing the dyeing with formic acid, which reduces the free chromic acid at once and the fastness of the dyeing is then dependent entirely on the dye which was used.

There are a few direct cotton dyes which may serve as chrome mordant dyes. The most common of these is Direct Fast Red F, to which we may add several of the direct chrome browns, whose general fastness when dyed on wool by any of the three methods is really remarkable. A word of caution is needed against the indiscriminate use of strong chromium mordants on fine wools; wherever chromic acid is allowed to act on wool, there is developed a harsh haspy effect, that cannot ever be overcome. It is for this reason that the chromiferous azo dyes, discussed in the first part of this installment, have gained such popularity.



Courtesy, Ciba Co., Inc.

Dyeing chrome mordant colors on wool yarns . . .

The seventh installment in this series, to cover the generally used sulphur colors, will appear in an early issue. Clippings of previous installments are available upon request, so long as the supply lasts.—The Editors.

Blending of Rayon and Cotton Staple

EVERY TEXTILE MILL that finds itself confronted with the *opportunity* of running blended fibers, such as rayon and cotton in certain percentages, feels that somewhere and somehow there is another plant that may be doing this just a little better and a little easier than they do it themselves. Outlined as follows are three methods, all of which have proven satisfactory; but if the superintendents of these plants ever sit beside each other at dinner and the subject of running blended stock comes up, it's a pretty good chance that all of them will go home and try the others' method. That is how important the running of blended stock is.

The first plant, built on the rolling plains of Dixie, uses 1½-inch staple rayon, in some cases 1½ denier and in others 3 denier.

The picker is run with a breaker beater speed of 1050 r.p.m., intermediate beater 1300 r.p.m., and finisher beater 1150 r.p.m.

No changes are made in the settings on the cards, cotton and staple rayon being run with the same settings. There doesn't really seem to be much use to change the settings because it's a troublesome detail, and besides any fibers that are carded out with the more open settings can be picked up and run again without any waste loss. So why change settings?

The card speeds do vary with the different deniers and staples of rayons. The smaller the fibers the faster the cards can be run and still give good work. As an example, this mill finds that on 1½ denier it can run the same speeds on the card as on cotton, but when it goes to 3 denier, which is considerably coarser, the card speeds must be reduced by 15 or 20 per cent.

The Mixing of Cotton and Rayon

The mixing is done at the drawing. To get a 25 per cent mix three ends of rayon and three ends of cotton are run together on the first drawing. Then on the second drawing, three ends of the mix from the first drawing are run with three ends of all cotton. It's as simple as that.

By this method almost any percentage of mix can be worked out and the percentages are much more accurate than by other methods this plant has tried. And it has tried hand mixing, hopper mixing, etc.

This mill has discovered that if the mixing is done before the carding, the percentage of rayon is upset because the card prefers to remove more rayon than it does cotton.

Going back to the drawing frame, naturally the rolls should be set to take care of the longest fiber. If 1½-inch rayon is run with 1-inch cotton, it is considered better to set the rolls to the rayon.

The second plant, built in swampy land, whose privilege it is also to run mixed fibers, runs the flats in the reverse direction and strips the flats at the back of the card instead of at the front. The strips, which for all practical purposes are still good, fall right back on the lap and go directly into the card.

This method naturally eliminates removing the waste from the card and re-working it into another lap.

The third mill, off in the mountains, has several methods. Method 1 is to lay bales of cotton and rayon around the apron of the opener and dump a layer of approximately the same weight on the apron. If the mix is to be 25 per cent rayon and 75 per cent cotton, three bales of cotton and one bale of rayon are placed in line and fed a layer from each bale.

Method 2 uses the same principle but instead of using the apron at the opener, the stock is fed directly into the hopper of the picker.

Method 3 is the same as described by the first mill, with the mixing being done at the drawing frames.

This plant has found that the mixes run better if the rayon staple and cotton are near the same length and diameter. For instance, a 1½-inch 1½ denier rayon staple and a 1 3/16-inch cotton will run better when mixed than a mixture of ⅞-inch cotton and 1½-inch rayon staple. Also, a mixture of 1 3/16-inch cotton will run better with 1½ denier rayon staple than with a mixture of 3 denier staple. This is because the diameters of the staples are nearer the same when the 1½ denier or finer denier rayon staple is used.

Rolling plains, mountain, or swampy method. Take your choice. They're all good.

An Old-Timer Says—

(Continued from page 108)

Well, JIM, I suppose that's as many letters as we will have time to look over tonight, but you see what a stack of them we have here. Here is a pretty good one. It's the kind that OLD-TIMER gets so much pleasure out of because it shows definitely that someone is actually profiting as a result of his efforts. It is dated April 30, 1932, and is from a North Carolina mill: "Received the 30 OLD-TIMER articles and I intend to use them to bolster the enforcement of our inspection system. Most of my loom fixers are following OLD-TIMER'S articles carefully. It *makes them think and act.*"

Yes, Mr. Editor, I can see that OLD-TIMER *should get a lot of pleasure in knowing these fellows are getting something really worthwhile out of his work, but there is another article, the title of which he used several times, when he would be called upon to make a talk at some meeting or at some banquet, and as well as I remember it, ran something like this: "Do Not Let Your Temper Cost You Friends or Money".*

That's correct, JIM, but it's getting late and that is too long a story to go into now. Therefore, the only thing I see we can do is to get together again soon and I'll tell you more about it. You know he had that slogan printed on a card—just like a business card and—

But I said we must stop talking and turn in, because I have a hard day before me tomorrow at the Textile Exposition.

O. K., Mr. Editor. Thanks a lot and I'll try to see you some week-end before long.

CURRENT TEXTILE TOPICS ....

Talk of the Month

ADVERSITY, if she be the teacher that she is cracked up to be, will prove herself in the class she took over this spring in the cotton-textile business. There may have been other industries as confused, but it would be difficult offhand to name them. Up to this writing the present months (April) an impossible position was occupied by raw cotton. Mills were selling goods below cost and yet buyers sought concessions. And yet again, a higher wage cost was staring manufacturers in the face. On top of all was the uncertainty engendered by European machinations.

Facing a multiplicity of trade complexities

We said "impossible" of the raw cotton situation, but of course it is axiomatic of human nature that the answer can be found to things that appear unsolvable. Out of the welter of complexities cited above will come perhaps a permanently new and better order of things in the cotton-textile field. Certainly the industry has encountered conditions demanding a fundamental shake-up.

What will be the ultimate solution of the cotton problem, it would be hazardous to forecast. When economics are governed by politics, developments are not expeditious nor do they reach a definitive point. One plan succeeds another, each trying to correct a situation developed by the previous program. The proponents of planned agricultural economics are in the saddle and trying out their nostrums, confident that the old law of supply and demand is an anachronism.

Perhaps it is and planned economy must be maintained. But so far it has brought only a marketing confusion and perplexity for consumers of raw materials. For the whole interval since the manifestation of a record cotton crop in 1937, this division of textile manufacture has had an abnormal condition in raw material to intensify the depression that began two years ago. That is reckoned one of the major obstacles to recovery since last spring in cotton goods.

On the other hand, fundamental weaknesses in the manufacturing industry have been recognized as essentially problems for the business to solve privately. The mills are not free from political interventions, but they still have been able to produce beyond the requirements of the market. However, this condition came into such relief this spring that it would be hard to believe that a new day is not dawning for the industry as a whole.

As far back as March there was significant news from manufacturing circles in the Carolinas of an awakening by mill men to the relationship of overproduction and ruinous prices. It was evinced in a beginning of curtailment among individual units. Indeed, it was said that some units had reached the point where closing was unavoidable, as they could not handle further loss business.

Among the encouraging reports was a resolution of yarn spinners against further selling of production below cost. The irony of such practice was reflected in a statement that "distributors, wholesalers and retailers are handling our product at a profit to themselves, and the buying public is not getting the full benefit of the mills' losses". Point was made also of the prospect of increased losses from higher wage costs imminent.

Cotton goods merchants in the primary distributing market of New York during recent months more than ever before have been agitating a reformation of mill practices. Recently the New York *Journal of Commerce* stated that "Worth Street is suffering more adversity right now than most sellers along that thoroughfare have been called upon to endure since the very depths of the depression back in 1932." This was jointly a responsibility of merchants and mills.

"Judged from any aspect, it would seem that the cotton textile industry at large could not be in a worse plight than it is right now," the report added. "Notwithstanding, there is good ground for the belief that the industry is making progress in a few directions. No one can deny that distributors of cotton textiles are doing more thinking about the fundamental problems of the business than at any time in the recent past. Old merchandising practices are being re-examined and those that no longer serve a purpose will be abandoned."

While putting their own house in order, these merchants have moved to exert all the pressure they could on mills to take similar corrective steps. It is admitted that the cotton industry may not be able as a whole to operate strictly against orders as in the case of some specialty plants in this textile branch and the mills on wool manufacture. Merchants suggest, however, that mills can operate in accordance with information from distributors who have surveyed the market and who possess a gauge of the volume needed in a given period.

If it were not for any other reason, the new conditions ahead in wage regulations would be sufficient as a spur to fundamental change in mill practices. The industry must adapt itself to the social-economic principles governing today. As it is, cotton manufacturers have been operating at prices below cost under the old status to within a short time before they have another adjustment to make. Thus they created a double obstacle to profitable production.

Something which may be fraught with significance for the industry is the visit in May of a textile mission from Lancashire. Enlightened international discussion of markets by private interests could do more than political moves, perhaps, toward solution of vexing problems. Foreign exploitation of our markets that would destroy domestic industry would profit nobody in the long run. Missions for exchange of ideas

among international competitors should serve, in a way, the same healthy purpose as trade associations.

COTTON MILLS of this district encountered an involved situation this spring and at the time of writing the outlook was mixed. The early part of the year found mills operating around 80 per cent of capacity and the industry was showing a profit. But it was evident that the high rate of output threatened accumulation if general distribution did not improve. That seemed unlikely, at least for the time being, in view of the damper put upon business by the European imbroglio.

New England Mill Situation

Combed yarn fabric producers, as has been cited here off and on, have followed the sound policy for two years of regulating production to demand. Thus in the middle of April, the market talk was that such producers had virtually decided to shut down looms upon expiration of contracts in hand. Beside the aversion to the old-time practice of taking orders at concessions for occupation of machinery, they had before them the prospect of higher wage costs.

While waiting for another forward movement, it is timely to survey the benefits of a conservative operating policy. For many months beginning with last August, consumption of cotton was heavy and gradually the leading mills developed a profitable period of operations. It cannot be said that all plants in New England made a good showing, but those producing fancy and specialty fabrics are reported to have done well. Incidentally, it is stated that the South is becoming increasingly a competitor in this division.

Disappointing spring business and the threats of war—the first undoubtedly to considerable extent due to the second—upset a healthy trend. The intricate problem of raw cotton was another disturbing factor. Thus at the annual meeting of the Pacific Mills the president, Alfred E. Colby, said: "Thus far in the current year (March 21) Pacific Mills has been operating profitably. If conditions become no worse, and there is no further deline in raw material values and no war, it should continue to do so."

Naumkeag Celebrates Its 100th Anniversary

Unfortunately the raw material situation was not improved and has continued to complicate the outlook. The unsettlement abroad, with conditions frequently making war seem imminent, caused the roseate outlook for spring to turn cloudy. So it appeared that production would again have to be curtailed for a time, in order to allow consumption to take care of the broad activity since last summer.

Among the notable events of April, meantime, was the celebration by the Naumkeag Steam Cotton Company of Salem of its 100th anniversary. This recalled the days when New England was the center and the all of cotton manufacture in the country. The pioneering era was well along, Slater having started the industry approximately fifty years before. But even in 1839 there was pioneering to do and this enterprise demonstrated the fact.

For the Naumkeag company, chartered on April 6, 1839, saw the possibilities in the new "steam engine" for mill power. Therein is the reason for the unusual name of a cotton manufacturing company—the "Steam" being incorporated to differentiate the mill from any other then operating in New England.

Continuing at the end of 100 years to carry this distinction as the first mill to utilize the new power, the company does not rely on its beginnings for prestige. It has grown into one of the largest units of the cotton textile industry through progressive methods. Its trade name "Pequot" has become famous for a product of high quality which links the mill through to the consumer through its own selling agency.

In the hundred years, the Naumkeag company has weathered not only depressions, but two major wars, the changing competitive conditions and a plant disaster of its own. The great Salem fire of 1914 in a few hours reduced to ruin the development of four generations by the company. Sixteen months later, however, the company had restored the plant and was again in full operation.

Spring also brought the resumption of operations by the spinning mill of the Pierce Bros., Ltd., plant in New Bedford. At the time of reopening, work was given nearly 200 employees and it was expected that single-shift capacity for almost 400 workers soon would follow. Weaving was also planned for resumption, with production changed from plain combed goods to fancies and novelties, with orders in hand for production over quite a period, after months of idleness.

"THE SITUATION"

As Seen Across an Executive's Desk

April 15, 1939

THE MOST IMPORTANT general cotton-textile news is the final recommendation by Textile Industry Committee No. 1 on a minimum wage for the industry. This promises to cause the most serious sectional split since the Emancipation Proclamation as the recommendation of 32½ cents minimum *sans* differentials of any sort actually means that the South, which has always enjoyed a labor differential over the North in the manufacture of textiles, now automatically loses it as the recommendation by not establishing a southern differential definitely establishes one in favor of the North. This is due to several factors: The village housing system of the South which has always been a financial liability and not an asset to the mills; the freight rates or transportation costs; and actual living costs.

32½ Cent Minimum Raises an Issue

The South faces a tremendous social upheaval through the ruling which gives to outside workers or unskilled labor—which in the South means the negro race—the same minimum wage received by the skilled laborer in the mill. The big social problem involved in this matter is the question as to whether white mill operatives will be willing to accept the same wage as the colored outside workers, and whether the textile employer will be willing to pay negro help the same

minimum wage paid the white help. The answer is No! Most of the executives with whom this commentator has discussed the matter insist they will discharge all negro workers before they will allow this dangerous situation to creep into their set-up.

The recommendation of 32½ cents industry-wide minimum may not be the final answer to a workingman's prayer. It may, on the other hand, mean unemployment for many thousands of negro workers who have been employed as porters, yard-truck drivers, lawn tenders, hedge cutters, and cotton roustabouts.

While it is true that some few groups and some individual corporations are paying in the South a minimum of 32½ cents or 33 cents *in the mill to mill operatives* and that in such cases the actual effect of the recommendation would mean a relatively small increase in the total pay-roll, the tremendous social question involved is a dangerous one and it is inconceivable that representatives of the industry who presented testimony before the Committee did not make that situation completely clear.

Having just completed a tour of northern sections and having heard the gleeful remarks and the chuckling of many executives in New England over the benefits to be received by them through the 32½ cents nondifferential recommended wage, we are forced to believe what is classed up there as sectional victory in this regard will create discord in an industry which now of all times needs harmony and solidarity in order to combat the many serious problems which beset it.

"An important change is expected to result in the competitive position of New England mills versus southern mills," said one leading New England executive in his speech before the New Bedford Kiwanis club last week. "The wage minimum of New Bedford mills, for instance, is only about two cents an hour above this 32½ cents minimum. This two cents an hour, however, when applied to the average payroll of a mill employing 1,000 operatives runs into money fast. But it was two and three times as much as that before this bill passed. On a fairly good-sized mill the payroll in New England has been running more than $100,000 a year higher than for a mill of similar size in the South."

This executive has failed to take into consideration that employees of those New England mills live in city slums for which it is presumed they pay sufficient rent to guarantee the taxes and depreciation and upkeep, if any, of the property. He failed to take into consideration that part of a southern mill operative's pay has always been the housing of the operative by the mill, in mill owned houses, which were rented at approximately 20 to 30 cents a room a week, a price which did not cover the annual taxes and depreciation, and was never intended as an investment return.

The Textile Industry Committee No. 1 functioned ably but the recommendation which included no living cost differentials is one which will be bitterly fought by the textile industry in the South, and which will create bad feeling between North and South for many years to come. Whether such evidence which will be presented at the public hearings to be held at an early date will have any effect on the approval of the recommendation remains to be seen.

Wagner Act Changes

Other legislative angles which are of real interest just now concern the Wagner Act hearings expected to result in a revision of that bill. For nearly four years important associations have urged the necessity of amending the Wagner Labor Relations Act. Its administration has been prejudiced and one-sided. It has been suggested that the bill should be amended as follows:

(1) Amend so as to provide that in hearings and proceedings held by the Board, or its agents, the rules of evidence prevailing in courts of law or equity shall prevail.

(2) Amend so that the findings of the Board as to the facts shall be supported by the preponderance of the evidence; and that such findings shall be subjected to review upon both the law and the facts by the Circuit Courts of Appeals of the United States.

(3) Amend by adding the following: Nothing in this Act shall be construed so as to abridge the right of free speech.

It is recognized that these amendments will not entirely rectify all of the evils permitted under the law, but it is believed these amendments, if enacted into law, will result in a fairer administration of the Act, and will, in a concrete way, preserve to some extent the common rights of an employer.

The Smith Cotton Bill

Still other legislative angles concern the raw cotton situation. On April 4 the Senate passed the Bankhead-Smith Bill permitting farmers to repossess up to 2,000,000 bales of the 11,000,000 bales cotton surplus at 5 cents a pound in lieu of planting cotton (the government paid 9 cents a pound, for this same cotton). The fact that the Senate passed the bill does not mean it will become law. The House won't accept it. The two stated objections to the bill are the expense estimated at over $60,000,000 and the cost to the farmers. Actually the objection to the bill is that the Administration is definitely shoving Senator Smith, purge survivor, off the map. It is too bad that the much needed legislation along this line should have been introduced by anyone recognized as being in the Administration dog-house, for of all cure-alls offered to solve the alarming cotton situation the Smith Bill seems the least evil. On the other hand, the cotton export subsidy is the Administration's idea of a solution to the problem and the only way to keep it from being put across is for Congress to refuse to vote the necessary money.

It is interesting in view of the cotton legislation situation to have a summary of cotton consumption.

The cotton situation during the past month, according to the Bureau of Agricultural Economics, was again characterized by continued high domestic mill consumption, small exports and foreign consumption of American cotton, high spot prices of American cotton relative to foreign growths and relative to futures quotations, and small stocks of "free" American cotton despite the record total domestic stocks.

Domestic mill consumption in February was one-third greater than in February last year and with one exception was the largest for that month since 1929. Domestic consumption from August through February was one-eighth larger than a year earlier and with one exception the largest for the period in 10 years.

Unofficial reports indicate that mill activity during the first three weeks of March continued at a rate equal to or possibly higher than in February. In late February and early March manufacturers' sales of unfinished cotton cloth are said to have materially exceeded output, but in the two weeks ended March 23 they were apparently less than production.

During the first 20 days of March, exports of American cotton were about 28 per cent less than in the corresponding period last season. In February they were one-third less than in February last year, only one-half as large as the preceding 10-year February average of 551,000 bales, and the smallest for the month in more than 50 years. For the 7 months ended February, domestic exports were 42 per cent less than in the first 7 months of last season.

Foreign consumption of American cotton so far this season has been much smaller than usual but much larger relatively than the exports of American cotton.

During the first 7 months of this season, foreign mills consumed about one-sixth less American cotton than in the corresponding period last season and the smallest quantity for any like period in 20 years. As a result of the much greater decline in exports than in consumption, foreign stocks of American cotton now are low for this time of the marketing season, even relative to the prevailing low rate of consumption.

Foreign mill consumption of foreign cotton from August to January this season was somewhat smaller (when expressed in bales of uniform weight) than in the corresponding period last season or the season before. In comparison with the average for the past 10 years, however, there was an increase of 28 per cent, according to estimates of the New York Cotton Exchange Service. With the exception of the past two years, foreign mills have used more non-American cotton so far this season than in any like period in history.

Recent reports from England and France indicate some improvement in sales of cotton textiles and slightly higher mill activity. In the other European countries conditions apparently showed little change as compared with the past month or two. In the Orient, mill activity in February remained about the same as in January.

During the 10 days ended March 6, a comparatively sharp advance in the domestic price of spot cotton raised Middling 7/8-inch in the 10 designated markets to over 8¾ cents, the highest level reached thus far this season. By March 24, however, practically all of this advance had been canceled. Spot prices continued high relative to futures contracts, particularly new crop contracts.

In Liverpool the price of American cotton on March 17 was the highest in relation to the price of Indian in more than 4 years even though the indicated supply of Indian cotton is the smallest in 5 years. On the same date the price of American Middling 7/8-inch was the highest relative to Egyptian Uppers for more than 2 years even though the indicated total supply of Egyptian cotton for the current season was considerably smaller than for either of the past 2 seasons. The high price of American cotton in relation to foreign growths is largely attributable to the second smallest "free" world stocks (stocks other than those in Government loans) of American cotton in more than 15 years. Such stocks on March 1 were about one-third less than the March 1 average for the past 10 years of 7,400,000 bales.

The Print Cloth Plan

The most interesting news in many months regarding market activity is the formation of a print cloth committee to provide impounding of all stock now on hand and curtailment to not more than 60 hours a week for 90 days. This is one of the greatest tasks ever undertaken in the industry and is receiving wide attention. It is said that if the program succeeds a desperate situation faced by the print cloth manufacturers will be corrected and that both buyers and sellers will benefit. This program will go into effect for three months upon the signing by representatives of 95 per cent of the print cloth looms of an agreement that the impounded stocks will not be sold until such time as and to the extent, released by a committee headed by J. E. Sirrine, and composed of F. W. Symmes, E. S. McKissick, J. B. Harris, and D. W. Anderson.

The situation in which the print cloth group finds itself is the result of three shifts produced in an overcrowded market for too long a time. At intervals curtailment programs have been attempted, but invariably the markets failed to respond to curtailment news. However, in this new venture it is felt that the agreement, if made to function effectively, will steer the market into safe channels. It is said that bankers approve the plan as they feel the value of their collateral will be enhanced. It is also understood that competent legal advice on the plan is to the effect that it is entirely within the law so long as the program is within the proposed outline.

All print cloth manufacturers signing the agreement pledged themselves not to sell any stock on hand as of the effective date unless and until released by the committee. It is the purpose of the committee to let a portion of the goods go as soon as the market can absorb such a portion at a better price. If, for instance, after the agreement goes into effect the committee decides the market could stand 5 per cent of the impounded stocks at an advanced price, it would notify the members of the group how much they could sell at that time. It is thought that periodic releases of stock from this pool would clarify the entire situation regarding print cloth activities and stabilize general textile markets.

Success with the print cloth program means that a definite approach to solving similar problems in other groups would be within easy reach.

National Cotton Week, May 22-27

All interested agencies are geared for a thorough and intensive celebration of National Cotton Week, which comes this year from May 22 to 27 inclusive. To the established forces pushing this event have recently been added the forces of the nation-wide chains of food, drug and other stores. It is expected that more than 75,000 establishments will participate this year.

What the Southern Mills are Doing

Dalton Georgia Manufacturing Company has made a petition for a charter. When granted, the company will manufacture bedspreads, draperies, and novelties. Petitioners are Frank McCarty, Dalton, Ga.; Claude D. Hill, Jr., Chattanooga; and C. H. Guy, Birmingham, Ala.

A petition has been filed for a charter for the Summerville (Ga.) Manufacturing Company. It is understood that the new company will begin operating the plant of the old Summerville Cotton Mills when the charter is granted.

Celanese Corporation of America has let contracts for the construction of six buildings on the site of the company's new plant near Pearisburg, Va., the firm of Hughes & Foulkrod, Philadelphia, receiving the award.

Travora Manufacturing Company, Graham, N. C., will build an extension to its finishing plant, planned to be 75x75 feet, three stories, with steel frame and plank construction with steel sash windows.

Naumkeag Steam Cotton Company, Salem, Mass., celebrated its 100th anniversary on April 10. Civic and community leaders of Salem attended a dinner sponsored by the Chamber of Commerce in honor of the occasion.

Arlington Plant, Textiles, Inc., Gastonia, N. C., will devote much of its machinery to the manufacture of coarse yarn. Recently there has been installed new equipment.

The finishing plant of the Chatham Manufacturing Company, Winston-Salem, N. C., will be moved to Elkin, N. C., where the company's weaving mills are located.

P. M. Neisler, textile executive of Kings Mountain, N. C., has purchased the plant, property, and equipment of the Mary Louise Mills, Mayo, S. C., near Spartanburg.

Judson Mills, Greenville, S. C., is selling the village houses to the operatives, who are given first choice, and also to the general public if all homes are not taken by the mill operatives.

Jennings and Mansfield Cotton Mills, Lumberton, N. C., are undergoing a modernization program costing $340,000.

Granite Cordage Company, Granite Falls, N. C., will install 70 additional braiders, bringing this type of equipment up to 685 machines.

Springs Cotton Mills, Plant No. 2, Fort Mill, S. C., has begun work on an addition, which will represent an expenditure of $100,000.

Stowe Mills, Inc., McAdenville, N. C., have been organized to take over the McAden Mills which have been idle for several years.

Corriher unit of the Linn-Corriher Mills is building a $35,000 unit as an addition.

Loom fixers at the Springs Cotton Mills, Fort Mill, S. C., have organized a loom fixers' club with 48 members.

Excelsior Mills, Union, S. C., have sold a number of the dwellings in the village to the operatives.

Dixie Waste Mills, Inc., Charlotte, N. C., was damaged by fire recently to the extent of $10,000.

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Book Reviews

Commodity Year Book

Commodity Research Bureau, Inc., 82 Beaver St., New York City, has published the *Commodity Year Book—1939*. The book is said to be the first of its kind, combining an all-inclusive statistical reference work, a raw material encyclopedia and nine other fact-finding studies on commodities in one volume. The special studies cover such topics as governmental activities in commodities; relationship of stock prices; war and commodity prices; U. S. balance of trade; international production control; and per capita consumption and population trends. There are 624 pages and 120 chart illustrations; the book sells for $7.50.

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48th Davison's Knit Goods Trade

Davison Publishing Company, Ridgewood, New Jersey, has made available the 48th annual *Davison's Knit Goods Trade*, a complete directory of the knitting and allied trades. It is said that there are three times as many corrections in this issue as in normal years; it also contains new and revised information. Besides the regular features, with which most users are familiar, it lists wholesalers, chain store companies, revised mill reports, department stores, and yarn spinners. The deluxe office edition sells for $6.00 and the thin paper pocket edition for $5.00.

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Mathews Conveyers Handbook

Mathews Conveyer Company, Ellwood City, Pa., has published the *Mathews Conveyers Handbook*, known as catalog No. HB39, designed expressly for engineers and plant operating personnel. It is pocket size 4¾x6½ inches overall, and contains 384 pages of engineering material. This book is offered to engineers and plant operating men in various plants, without obligation.

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New Book

Capital Goods and the American Enterprise System is an 88-page book discussing the economic principles essential to employment expansion in the United States, and basic conflicts between a spending policy and a program of saving and investment in productive enterprise. It is a studied statement of economic and social principles. It may be secured from Machinery Institute, 221 N. LaSalle St., Chicago, Ill.

◆

Davison's Cordage, Twine, and Duck Trade 1939

Davison Publishing Company, Ridgewood, N. J., has made available the new *Davison's Cordage, Twine, and Duck Trade 1939* directory. It is a handy 7½x5-inch book containing 282 pages. With thumb indexes, it carries listings of advertisers, manufacturers, mill agents, jobbers, hardware dealers, woodenware, sails, tents and awnings makers, etc. This 31st edition sells for $3.00.

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Goodyear Appointments

The Goodyear Tire & Rubber Co., Akron, Ohio, has announced four new appointments in the Mechanical Goods Department. R. W. Sanborn, formerly district manager of mechanical goods sales at Pittsburgh, has been appointed manager of all hose sales, with headquarters in Akron. W. T. Bell, who has been manager of the hose department for several years, has been placed in charge of distributor sales, a new department. He will coordinate efforts of Goodyear's distributors in all parts of the country. C. A. Mathias, mechanical goods salesman at Buffalo, has been promoted to mechanical Goodyear district manager for Pittsburgh district with headquarters in that city. R. W. Richardson, who has been a mechanical goods salesman in the Chicago territory for the last two years, is promoted to a larger territory, replacing Mathias at Buffalo.

COMMENT on the Cotton Market

New Orleans, April 15, 1939

NOTWITHSTANDING the apparent trade need of certain grades and staples of American cotton, and planting time to have arrived in much of the cotton region, nothing has been done as yet to provide the trade with the desired qualities or to define some plan as to marketing the 1939 crop next season. These features and the continuance of talk of probable war in Europe have tended to restrict general business at home and abroad.

With the opening of the planting season, the outlook for the South from a cotton-growing point of view is anything but encouraging. While the acreage allotment for this year is 27,525,000 acres versus about the same allotment last year, the amount planted last year was officially estimated at 26,144,000 acres, of which only 25,346,000 were harvested.

It is not surprising, therefore, to find the southern planter apparently indifferent to the growing of cotton as a result of the unsatisfactory price and the unfavorable export outlook for the American product, due to foreign competition abroad. It looks as though the Land of Dixie will have to resort to the growing of larger grain and live stock crops as a means of self-defense. Such a change of farming in the South would do much to cover the loss of large cotton crops, but would be injurious to the farmers of the Central West who heretofore found a large market in the South for dairy and hog products. In a word, the loss of foreign markets for American cotton is a national loss. This season's exports of American cotton to date total only 3,086,000 bales against 5,129,000 to even date last season. Shipments for the whole of this season promise to be only about one-half of exports in a normal season.

Meanwhile we find the government loaded down with the enormous stock of more than 11,000,000 bales of loan cotton, with a new crop in the making. Domestic consumption can hardly take care of more than about 7,000,000 bales, and unless exports next season increase materially, there is the possibility of a further increase in loan stocks next year in event of the yield per acre being large this year, if the loan plan continues in effect next season or unless some means are devised whereby government loan holdings may be reduced.

Compared with last season the Garside service estimates the world's consumption of American lint cotton for the first seven months of the season at 6,537,000 bales versus 6,634,000; and of foreign at 9,658,000 bales versus 9,758,000, and of all kinds at 16,195,000 bales versus 16,392,000; and that indications are that the world's carry-over of American will be about 14,300,000 bales versus 13,700,000, and of foreign about 7,725,000 bales versus 8,535,000. The carry-over of foreign will be about normal, but the surplus of American will probably be the largest on record.

Condemning by resolution the government's cotton policy, the American Cotton Manufacturers today concluded its two-day 43rd annual convention at New Orleans. Some of the resolutions adopted by the association follow:

A protest against an export subsidy on cotton.

That federal loan operations are responsible for the textile industry operating on a level set up by the 8.3 cents loan value, and that such subsidies would sound the death knell of the textile industry.

The association urged that current cotton crops be permitted to flow into channels of trade and that farmers be paid direct benefits from the federal treasury to keep cotton from going into the government loan. The resolution recommended that a maximum of 500,000 government loan bales be released before January 31, 1940, at not less than 8.3 cents a pound, in order to avoid flooding the market.

A resolution was adopted urging Congress to enact legislation by which cotton would be traded on "net weight" basis.

Dr. C. T. Murchison, of The Cotton-Textile Institute, warned that unless raw cotton is allowed to retain its full competitive power in world markets, the South will be forced into a diversified self-sustaining agriculture which would reflect itself in lowered "importations" from the North and West.

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CENSUS REPORT

United States— Bales—	This season	Last season
Consumption of lint during March	649,000	513,000
Consumption of lint, 8 months	4,603,000	4,017,000
Mill stocks, March 31	1,416,000	1,768,000
Stocks in public storage and warehouses, March 31	13,489,000	10,942,000
Stocks in mills, public storage, and warehouses, March 31	14,905,000	12,710,000
Active spindles during March	22,472,000	22,291,000
Consumption of lint in Cotton Growing States, March	547,000	429,000
Consumption of lint in New England States, March	85,000	67,000
Consumption of lint in All Other States, Mar.	17,000	16,000
Consumption of lint in Cotton Growing States, 8 months	3,898,000	3,416,000
Consumption of lint in New England States, 8 months	582,000	492,000
Consumption of lint in All Other States, 8 months	124,000	109,000

AMERICAN COTTON

August 1 to April 14— Bales—	This season	Last season
Brought into sight (marketed)	10,026,000	14,338,000
Exports from U. S., inc. Canada	3,086,000	5,129,000
Spinners' takings, world	9,052,000	9,540,000

WORLD'S VISIBLE SUPPLY OF COTTON

March 14— Bales—	This season	Last season
Stocks at U. S. ports	2,224,000	2,862,000
Stocks at 102 interior towns	4,084,000	3,055,000
Afloat to and at European ports	817,000	1,576,000
Afloat to and at Oriental ports	194,000	300,000
Totals of American	7,319,000	7,794,000
Of other kinds	2,451,000	2,175,000
Total of all kinds	9,770,000	9,969,000

Rayon Yarn Market Dull During Last Half of March

Deliveries of rayon filament yarn to domestic consumers during March aggregated 26,500,000 pounds as compared with 25,600,000 pounds in February, according to the *Rayon Organon*, published by the Textile Economics Bureau, Inc. Stocks of yarn held by producers at the close of March totaled 41,400,000 pounds as against 39,500,000 pounds held at the end of February. Shipments of rayon filament yarn to American mills, states this publication, although active during the first half of March, registered a falling off during the closing weeks of the month. The slackened demand for rayon in the last two weeks of March closely followed the activity of other textiles, reflecting the disturbing foreign situation and unfavorable weather conditions, which factors have been responsible for retarding the normal spring rise. While admitting that weavers' and converters' stocks of rayon goods are adequate at present, it is pointed out that retail inventories are unusually low, indicating, according to the *Organon*, "that the very dull market of the last half of March will not be of extensive duration."

Continued high prices for silk have been responsible, in part, for the recent increased rayon deliveries from domestic mills.

New Textile Equipment and Materials

New Hardened Tapered Tube for High Speed Cotton Spinning

American Paper Tube Co., Woonsocket, R. I., has announced the perfection of a new hardened and impregnated tapered paper tube for modern high speed cotton spinning frames with large rings. When used with a special sleeve spindle, also a recent development, this tube is instrumental in eliminating spindle vibration with resultant oil pumping, heating, excessive wear on the spindle bolster, and bobbin slippage

Tube for sleeve spinning

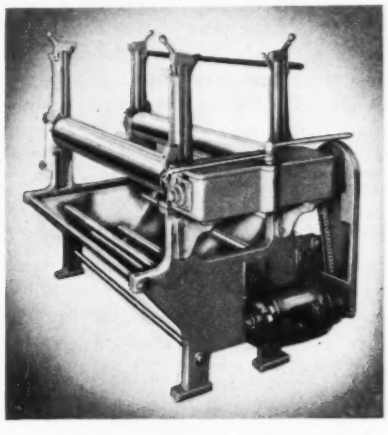
with resultant wear at the tip of the spindle. This tube is about 1/6 the weight of a wooden bobbin of a corresponding size and it is said the stresses created by the better balance and weighting of the spindle are definitely less. The decrease in weight is reflected directly in a decrease of stresses caused by variations in the degree of the dynamic balance. This new tube also has the advantage of low initail cost, being about one-fourth that of a corresponding wooden bobbin. When properly used, these tubes should last for 5 years or longer. They are also easy to clean, having no tendency to plug at the top, and can be obtained in a large variety of colors in cases where it is desired to separate yarn batches on account of differences in stock, count or twist.

Another very important feature of this tube is that it is driven by spindle tip suspension, with perfect cling due to its natural resiliency, the tube itself fitting the taper of the sleeve with clearances varying from .008-inch to .012-inch at the lower ned. Drive is based on the mechanical principle that a mass supported at a point above the center of gravity can be revolved rapidly with less vibration than the same body supported below the center of gravity. This type of suspension is largely responsible for the elimination of wear at the top bearing. Still another advantage of this tube is the fact that it has great resistance to warping, splintering, splitting and chipping.

◆

New Dye Jig and Dye Box

S. Blickman, Inc., Weehawken, N. J., has designed two new pieces of dyeing equipment, both of stainless steel. The dye jig is said to give satisfaction on any material commonly dyed on jigs. The new one is sturdily built to withstand strain. There is no danger of contamination by colors. Materials do



Stainless steel jig

not catch on roll brackets because cups for immersion rolls are built into the tub; there are no sharp corners or intersections to catch dregs.

The dye box also has no rough surfaces. Idler reels are built of light gauge stainless steel and added inside re-inforcing insures rigidity. The reel supports are entirely independent of the box and relieve the tub of all mechanical strain, it is said.

◆

Two Types of Boiler Gaskets

Goetze Gasket & Packing Co., Inc., New Brunswick, N. J., has announced two types of gaskets for manholes, handholes and tube caps of all standard makes of boilers. Single-jacketed, metal-asbestos gaskets are recommended for general use where surfaces are relatively smooth. This is the type of gasket leading boiler manufacturers furnish as standard equipment. Choice of metals is offered . . . steel, copper, Monel, etc. For flange faces with surface irregularities an improved type of spiral-wound gasket is recommended. Asbestos and preformed metal strips are wound spirally into gaskets of round, oval or irregular shapes.

◆

New Hoist Plugs Into Ordinary Lamp Socket

Chisholm-Moore Hoist Corporation, Tonawanda, N. Y., have introduced a new hoist, combining the dependability of big scale hoisting equipment with compact, light-weight convenience. Easily carried and installed by one man, the Comet is powered by a specially built heavy duty, high torque motor

New overhead hoist

that runs on an ordinary light circuit or 3 phase power line. Just plug in, and the hoist is ready to go. No special installation or accessories needed. Use it anywhere. The result is a new idea in materials handling—a rugged, versatile tool that saves time and energy on smaller type hoisting operations where heavy equipment is impractical.

The Comet is offered in four capacities: 250, 500, 750 and 1000 lbs., and several speeds. The 500 lb. size weighs only 85 pounds.

◆

Rhoplex W-66

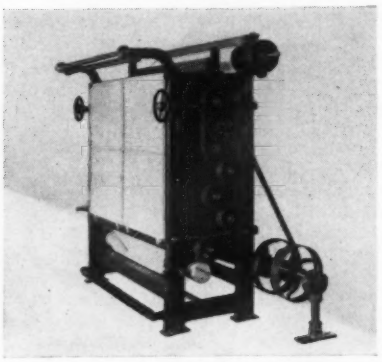
Rohm & Haas Company, Inc., 222 West Washington Square, Philadelphia, Pa., has announced Rhoplex W-66, a water dispersion of a new, clear, colorless, resin which contains no organic solvents or plasticizers. The clear resin deposited from this aqueous dispersion is unusually tough and flexible. It constitutes the latest addition to the company's line of water dispersed synthetic resins, developed for the production of permanent finishes on textiles, paper, and other water absorbent ma-

terials. It may be used in acid, neutral or alkaline solution. It is said to increase the strength of textile fibers and fabrics and acts as an extremely effective agent to bind and set soft twisted yarns and fibers.

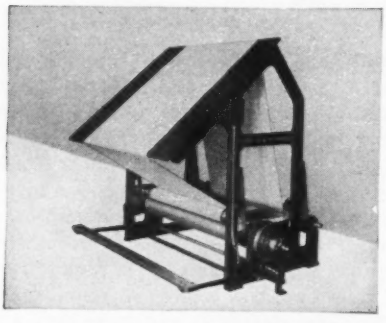
◆

Inspector and Vertical Brusher

Curtis & Marble Machine Company, Worcester, Mass., makers of cloth room machinery, have introduced two new machines, the vertical brusher with quick adjustment and the Type LR inspector with motor drive. On the vertical brusher it is possible to change easily and almost instantly from a lighter to a heavier brushing or vice versa. By merely turning a handwheel at each side of the machine, brushes and guide rods move either in towards the cloth or else away from it as desired. Any type of cleaning rolls can be used, such as brushes, card rolls,



Above, new vertical brusher; below, new LR inspector . . .



emery rolls, sand rolls or steel bladed beaters. The cloth runs vertically upwards between the cleaning rolls. Dust chutes deflect the dust and lint away from the goods and into the hoppers at the bottom of the machine. An exhaust fan then carries away this waste material.

The Type LR inspector with motor drive was designed especially for handling of large rolls of cloth, taking a roll as large as 32 inches in diameter. The roll of cloth to be inspected is placed on the unrolling roll at the rear of the machine. The cloth passes down the table; the movement is easily controlled by the foot treadle across the front of the machine.

Two New Colors

E. I. DU Pont DE Nemours & Company, Inc., Wilmington, Del., has announced two new colors. Ponsol Olive GGL Paste is a new vat dyestuff for khaki and olive shades on uniform cloths and other types of service fabrics. Luxol Fast Blue MBS is a new spirit soluble color for making transparent lacquers and spirit printing ink colors.

◆

New Type Shelving

Sterling Factory Equipment Company, 189 Charles St., Providence, R. I., now manufactures a new type of steel shelving unit that can be built up a shelf at a time. It is called the Mac shelf, and combines shelf and end angles in one unit, the angle being formed into inverted "U's" which are welded to shelf. No bolts or clips are used in fastening the shelves. One unit acts on top of another, being held in position by studs. Its main features are convenience and flexibility. It can also be relocated quickly without disturbing the contents of the shelves.

◆

Duplex Welding Hose

The Manhattan Rubber Manufacturing Division of Raybestos-Manhattan, Inc., Passaic, N. J., has developed the Condor duplex welding hose, a practical twin hose designed to make welding safer and more efficient. Two hose lines are held together by a permanent web joint, integrally molded and having great strength and flexibility. The joint prevents tangling, kinking and snagging while the hose is in use. The needs are separated 18 inches for the torch end and 24 inches for the tank end for ease in making connections and in handling. Available in either one or two braid, or in heavy duty braid and spiral cord construction.

◆

Tube Drawing Compound

National Oil Products Company, Harrison, N. J., has developed a new tube drawing compound, NOPCO No. 2261, which is a stable paste compound of high titre fats. It is readily soluble and is formulated specifically for the lubrication of heavy draws in wet working of copper and brass tubes.

◆

New Enamel

Sherwin-Williams Company, Cleveland, Ohio, has made available a new product, the S-W Kem Lustral Enamel, a versatile finish that can be brushed, sprayed, dipped, air-dried or baked, and applied to wood or metal surfaces subject to exterior or interior exposure. It is said to produce a smooth, mirror-like finish of appealing beauty and to maintain its toughness, gloss and color under exposure.

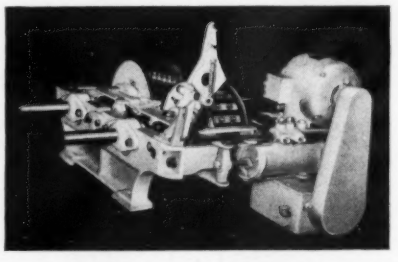
Idler Pulley

S K F Industries, Inc., Philadelphia, Pa., has developed a new light high speed, anti-friction idler pulley for industries other than textile, based upon the acceptance of the free-running idler pulley in textile plants. The pulleys may be mounted on almost every type of machine.

◆

New Reeves Hydraulic Automatic Control

Reeves Pulley Co., Columbus, Indiana, has announced a new and improved type of hydraulic automatic control for use with the variable speed transmission. With the transmission as a basis, this control provides entirely automatic speed regulation to make possible synchronization of different machines and separate sections of a single machine; maintenance of constant tension and uniform peripheral winding speeds; and maintenance of uniform pressure, weight, liquid level, temperature and other variable elements. Pressure of only two or three ounces will produce change in speed. Back lash and lost motion are said to be definitely eliminated and liquid in the oil pump acts as a brake to pre-



Hydraulic automatic control

vent movement when the control is in "neutral", thus preventing "coasting" and "hunting".

The control is mounted at one end of the transmission frame. A self-contained hydraulic power plant is mounted on the right hand set of shifting levers of the transmission (which control disc and belt diameters and thus effect speed changes). This plant consists of a small electric motor operating an oil pump in a reservoir to supply hydraulic power.

Equalizing links interposed between two pairs of shifting levers insure equal movement on both pairs and maintain perfect alignment of the transmission V-belt in the discs. The valve is actuated by a connecting rod which connects to an extended lever, above. This lever may be attached by cable or chain, or direct, to a compensating or floating roll, pressure regulator, moving carriage or part of the driven machine from which indication of required speeds can be taken. The control lever can be located any place on a 360° circle.

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Cushion Bearing Bobbin

Saco-Lowell Shops, 60 Batterymarch Street, Boston, Mass., have developed a regular hardwood warp bobbin whose upper bearing instead of being a wood-to-metal fit or a metal-to-metal fit, is fitted with a rubber bushing—the new bobbin is termed the cushioned bearing bobbin. The effect of the bushing is to assure a close fit at the upper bearing to eliminate roughness or vibration and to prevent the slipping of the bobbin on the spindle, this latter function being extremely important. The continual slip of the bobbin on the spindle, when there is play in the upper part of the bobbin, wears the spindle and the bobbin and has the effect of changing the wind of the yarn on the bobbin. It is said that these troubles are not encountered in the cushioned bearing bobbin. Arrangements have been negotiated so that bobbin manufacturers can apply the new principle to bobbins made in their plants. It is understood that the cost of the assembly is nominal; also, an upper bearing is being developed to fit filling frames.

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Link-Belt Stoker Line for 1939

Link-Belt Company, 307 N. Michigan Ave., Chicago, Ill., has announced several improvements in the company's line of stokers. They are now larger and heavier, with greater hopper capacity, available in two shades. The shear pin has been eliminated and overloads are handled by an inbuilt device that makes it but rarely necessary for the owner to open the cleanout. An automatic load-signal is provided also.

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New Stroboscopes

General Radio Co., 30 State St., Cambridge, Mass., has announced two new stroboscopes, portable units for use in speed measurement and slow-motion studies of rotating and reciprocating mechanisms. The Type 631-B Strobotac is suitable for speed measurements on spinning and twisting spindles, loom, etc. The Type 648-A Strobolux is a larger instrument, furnishing 100 times as much light as the Strobotac.

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Waterproofing Agent

Sandoz Chemical Works, Inc., will soon bring out a new addition to their waterproofing agents which are well known among the trade under the name Cerol. Unlike the present brands of Cerol this new addition will have some new radical features which will put it in a class by itself.

The outstanding feature of the new addition to the Cerols is its permancy. Not only will it withstand light launderings, according to the manufacturer, but it is believed that goods treated with the new Cerol can safely be washed and dry-cleaned without losing the water-repellent feature. The new Cerol will impart to the fabric a soft and agreeable hand and will leave it in its original porous state. Experiments are being carried out at the present time in the laboratories of the Sandoz Chemical Works, Inc., and it is expected that the product will be offered to the trade shortly.

◆

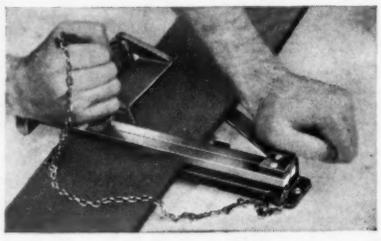
New Belt Dressing

R. G. Dunwody & Sons, Inc., Atlanta, Ga., have introduced a new belt dressing which is said to transmit more power due to less slipping of the belt, increase the tensile strength, preserve the leather, and leave a clean dry surface, with no pick-up of nap. It is said to be free of hardening rosin or oxidizing oils.

◆

New Belt Cutter

Armstrong-Bray & Company, Chicago, Ill., manufacturers of Wiregrip belt hooks and Steelgrip belt lacing, have announced a new belt cutter priced within reach of even the smaller shops. The cutter is designed to end the common practice of cutting a square end on a power transmission belt with a pocket knife, a dangerous wasteful practice as it usually takes several cuts to get the exact square end necessary to obtain uniform tension on a laced belt. Termed the Universal, the cutter handles leather, fabric, and rubber belts up to 8 inches in width. It holds the belt securely against a side guide, while a special knife is drawn down a track that assures an accurate square cut. The track also prevents the knife from slipping and injuring the operator. It can be bolted to a bench or carried out to the job.



New belt cutter

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Food Service Cart

Rock Hill Body Company, Rock Hill, S. C., has announced a new portable dispenser or food service cart to serve the textile and like industrial industries. It is available in a variety of sizes. The frame is constructed of all steel members electrically welded and riveted together. All outside panel sheets. It is well insulated between the outer and inner shells. Top molding and compartment doors are fabricated from 18-8 stainless steel. The wheels are equipped with ball bearings with grease fittings. A mechanical refrigerator can be mounted beneath the ice cream or other compartment in the rear.

◆

New Randall Pillow Block

Randall Graphite Products Corporation, 609 W. Lake St., Chicago, have announced a new light weight, low priced, patented pillow block. The one-piece steel housing pillow block consists of only three parts. It has increased oil capacity, assures full constant self-alignment, and runs more quietly, states the company. Available in shaft sizes from ½-inch to 1-inch, it can be mounted in any position.

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Sulfanole B—A New Synthetic Soap

Warwick Chemical Company, West Warwick, R. I., has introduced Sulfanole PB, an aliphatic, fatty derivative, commercially available in paste form, being light brown in color and possessing a clean, pleasing odor. It is completely stable in storage, will not turn rancid or oxidize, is chemically neutral and does not hydrolyse. Its solutions have a pH value of 6.8—7.0. It is readily soluble in cold water, has powerful detergent, wetting and emulsifying properties, is equally effective in neutral, acid or alkaline solutions, and resistant to the formation of insoluble lime precipitates in hard water. It also has marked stability to most metallic salts.

◆

Dry Fulling Mill

Riggs & Lombard, Inc., Lowell, Mass., has recently placed on the market a new Fleet Line semi-continuous dry fulling mill, with rugged all metal construction. It is said to effect almost continuous production, is exceptionally flexible, and eliminates all carbon dust from the room.

◆

De-ion Combination Linestarter

Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., now manufactures a new De-ion linestarter and a manually operated motor circuit switch combined in the same streamlined cabinet. It is especially designed for across-the-line starting of squirrel cage motors, or as primary switch for wound-rotor induction motors. Outstanding new feature of the linestarter is the safe-locking design of handle and cabinet. The door cannot be opened with the switch in "on" position. The starter has fuseless circuit protection, by an instantaneous magnetic trip circuit breaker. There are no elements to renew after circuit tripping. Breaker is reset by moving external handle. The breaker handle is a positive indicator, showing whether breaker is on, off, or tripped.

"WHAT'S THE SECRET, JIM?

These figures show that your roll covering expense in the No. 4 mill is only half what it is in the other mills in our group."

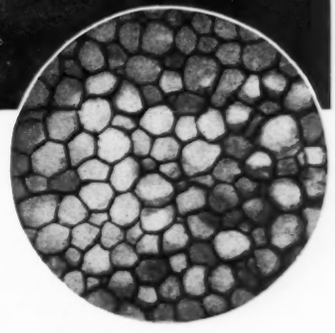
"OUR ROLL COVERING costs have been high as you know—too high to my way of thinking. So nine months ago, as an experiment, I began equipping the spinning and cardroom frames in our No. 4 mill with Armstrong's Cork Cots.

"RESULTS? You told me the answer yourself. It not only is reducing roll costs, but is giving us a stronger and more uniform product as well. We're getting better running work, too. Fewer top roll laps. Less end breakage. And these cots practically eliminate eyebrows.

"COSTS? Just glance at those figures again! The first cost of Armstrong's Cork Cots is no more than other roll coverings. But look at the savings they give us by lasting so much longer. Those cots will be good for a couple of years more because they can be rebuffed three or four times for about half a cent a roll."

"NO QUESTION about it, Jim. Your experiment proves to me that a complete change-over to cork will cut our roll covering cost by 50% or more. After what you've shown me, there's no reason to hesitate—I'm going to suggest we change all our mills to Armstrong's Cork right now."

RIGHT NOW is a good time to find out how *your* mill can benefit by a change-over to the modern roll covering—Armstrong's Seamless Cork Cots. Let an Armstrong representative show you production figures of mills spinning your range of numbers on cork. Or write today to Armstrong Cork Company, Industrial Division, Textile Products Section, 923 Arch Street, Lancaster, Pennsylvania.



WHY CORK COTS HAVE LONGER LIFE

The microscope shows that cork consists of millions of tiny cells of trapped air. Under pressure, this air contracts, but the cell walls do not change. When pressure is released, the cork "comes back" quickly to its original shape. That's why cork cots last longer, give you a truer, more uniform drafting surface over a longer period of time.

ARMSTRONG'S *Extra Cushion* SEAMLESS CORK COTS

CORK PRODUCTS SINCE 1860

TIMELY NEWS ITEMS WITH A TEXTILE SLANT . . . .

Restandardization of Gray Cloths is Urged

According to the *Daily News Record* of New York, restandardization of gray goods constructions is suggested by some in the trade in order to secure an economic cutter's width after finishing and Sanforizing. The standard print cloths must be handled just right by the finisher if he is to produce a finished and Sanforized result according to customer specifications, otherwise the goods may be too narrow. This, it is pointed out, is not always the finisher's fault as the mill, for some reason such as the use of shorter cotton, is putting more twist in the filling, and the greater the twist the greater the shrinkage.

Some mills realize that gray constructions can be revised to secure a required finished shrunk result and still be profitable to the mills.

With the various widths of finished and shrunk print cloths and other fabrics, it is necessary that the converter know something of the dimensions to which their purchased gray goods will shrink before making large purchases. He can have tests made which will give him usable shrinkage figures which he may use as a guide.

The trade should let it be known whether fabrics are expected to remain as they are purchased in the gray and to gray specification or to finish to specification upon being shrunk.

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Distributor

The Textile Color Card Association. it was announced today by Margaret Hayden Rorke, managing director, has been appointed by the British Colour Council as the sole authorized distributor in the United States and Canada of the *Royal Colour Book* containing the colors selected and approved by Her Majesty Queen Elizabeth of England for the British Colour Council as the colors to commemorate her visit to the United States and Canada. The *Royal Colour Book*, a de luxe edition, it was explained by Mrs. Rorke, will be an attractive souvenir of the royal visit, as well as illustrating the two colors, named by her majesty "Regina Blue" and "Mayflower Lilac."

Inside the book will be three tones of each of two colors and the colors will be shown in silk and wool. Harmonizing colors in leather for shoes and for gloves, also colors for silk hosiery, will be shown.

New Plant of Industrial Rayon Uses Fafnir Bearings

In the new Painesville (Ohio) plant of Industrial Rayon Corporation, the continuous filament spinning machines are equipped with Fafnir ball bearings. According to Fafnir, there are 23,000 bearings used on these machines throughout this modern and up-to-date plant. These units must operate 24 hours a day for every day in the year. The angular shafts that drive the various bakelite reels over which the ends of the rayon are conveyed are supported on specially designed wide inner ring ball bearings, easily assembled by the use of the self-locking collar, eliminating the need of expensive shouldering of the shafts. Many other parts of the machine are equipped with similar Fafnir bearings.

◆

Robins Heads American Pulley

James H. Robins has been elected president of The American Pulley Company, Philadelphia, Pa., succeeding Charles E. Brinley, who recently was

Mr. Robins

elected president of the Baldwin Locomotive Works. After 37 years, Mr. Brinley has severed active connection with The American Pulley Company, but remains as chairman of the board.

◆

Orders for New Sanforizing Machines

The addition of six new licensees of the Sanforizing process and the purchase of ten new machines by current licensees was announced by Cluett, Peabody & Co., Inc. This represents an increase of 13 per cent in the number of machines in operation, bringing the total number of licensees in this country to 74 and the number of machines to 153. These orders for sixteen new machines, which entail a capital investment of over three hundred thousand dollars by textile mills and finishing plants, are evidence of the industry's belief in the continuing increased demand for Sanforized-Shrunk fabrics. The new licensees are The Aponaug Manufacturing Company, Kosciusko Miss.; The Appleton Company, Anderson, S. C.; The Arista Mills Company, Winston-Salem, N. C.; The Revolution Cotton Mills, Inc., Greensboro, N. C.; Roanoke Mills Company, No. 1, Roanoke Rapids, N. C.; and Rock Hill (S. C.) Printing & Finishing Company.

◆

Arkansas Company Moves

After more than 20 years with offices in the Woolworth Building, New York City, The Arkansas Company, chemical manufacturer, is moving its offices to the site of its manufacturing plant at Newark, N. J.

◆

American MonoRail Re-opens Office in Charlotte, N. C.

The American MonoRail Company, of Cleveland, Ohio, has announced the re-opening of its office in Charlotte, N. C., at 214 Johnston Bldg., with Lewis H. Fallis in charge.

◆

Calco Advertising Manager

Allan B. Clow, manager of the household products division of The Calco Chemical Company, Inc., Bound Brook, N. J., has assumed in addition to his present duties the position of advertising manager for the company, which is a division of the American Cyanamid Company. Mr. Clow succeeds E. T. Nettleton, who has become associated with Charles W. Hoyt Company, agency for Calco.

◆

"Mercury Sun" Features New Fluorescent Lamp

Applications of the new 100-watt Cooper-Hewitt fluorescent lamp in industry are discussed in the March issue of *The Mercury Sun*, a 4-page illustrated house organ issued by the General Electric Vapor Lamp Company, Hoboken, N. J. Titled "The Where of the Fluorescent Lamp," the lead editorial stresses the importance of knowing the proper place for effective use of fluorescent lamps. In addition to this editorial, the March issue of the *Sun* completely describes the new fluorescent lamp.

◆

K-A Stop Motions for Draper Looms

Announcement has been made of an arrangement that when so specified by the purchaser, Draper looms, manufactured by Draper Corporation, Hopedale, Mass., may be equipped at the Draper factory with the K-A electrical warp stop motion, equipment of the Rhode Island Warp Stop Equipment Company, Pawtucket, R. I.

DELIVERS THE CASH *As You* DELIVER THE GOODS

Collect as you ship—yet extend the usual terms to your customers!

Commercial Factors Corporation pays you ready cash as goods are shipped. There is no need to wait 30, 60 or 90 days for your money. You are rid of worrisome credit and collection responsibilities—and you have no credit losses.

Write us for the facts—and do so today while it is fresh in your mind.

COMMERCIAL FACTORS CORPORATION

Fred'k Vietor & Achelis, Inc. Established 1828
Schefer, Schramm & Vogel Established 1838
Peierls, Buhler & Co., Inc. Established 1893

TWO PARK AVENUE, NEW YORK

New Publications of Textile Interest

CIBA COMPANY, INC., P. O. Box 25, Station C, New York City, sole representatives for Society of Chemical Industry in Basle, Switzerland. Several circulars and sample cards announcing new products and processes:

Circular 484: Cibanone Brown GRF, for use on cotton sliver, packages, beams, circulating machines.

Circular 487: Neolan Yellow 8GE, for use in piece dyeing on fashion shades having fastness to wear and perspiration; cotton, viscose, and acetate rayons remain reserved pure white. Suitable for dyeing silk and for direct prints on wool and silk.

Circular 488: Neocotone Scarlet G. For printing of cellulosic materials.

Circular 490: Chlorantine Fast Orange GL, suited for cotton and rayon dyeing, viscose rayon of unequal affinity being dyed uniformiy. Adapted for dyeing unweighted silk. Dischargeable on cotton, rayon or silk.

Circular 491: Direct Catechine 3R. For dyeing cotton in all stages of manufacture, as well as rayons and mixed fabrics of rayon and cotton where shades of equal tone are obtained.

Circular 492: Coprantine Blues GLL and RLL (patent applied for), dye cotton and rayon from a bath containing soda, glauber salt and Coprantine Salt I, for cotton in all stages of manufacture and viscose rayon.

Circular 494: Chrome Fast Olive R or Synchromate Olive R (patent applied for); cotton and rayon effects are reserved and acetate rayon is only slightly tinted. Not adapted for vigoreux printing.

Circular 495: Brilliant Alizarine Fast Violet 6R, for wool; effect threads of cotton, rayons remain white. Suited for silk dyeing.

Circular 496: Brilliant Cyanine G. Exhausts well on wool; may be used for shading the wool in unions and mixed fabrics. Effect threads of cotton or rayon only lightly tinted; acetate reserved pure white.

Sample Card 1620: Ciba and Cibanone colors on viscose rayon. Illustrates 100 dyeings of two shades each, with exception of acetate rayon.

Sample Card 1625: Cotton dyestuffs, free of copper and manganese. For fabrics to be rubberized and vulcanized.

Sample Card 1630: Padding in unreduced state with Ciba and Cibanone Micro powders, pastes,and Micro pastes. Shows number of clear tones produced by use of these products.

Sample Card 1635: Hosiery shades on wool, plaited with viscose rayon. Shows 72 dyeings on various mixtures.

Sample Cards 1650-1653: Chlorantine Fast Colors, shown on ordinary and mercerized cotton, cotton piece goods, and viscose rayon.

Sample Card 1655: Ciba and Cibanone dyes on silk. Types best suited for dyeing unweighted and chappe silk.

Sample Card 1670: White and colored discharges on dischargeable vat dyed grounds, without use of hydrosulphite preparations.

The FAFNIR BEARING COMPANY, New Britain, Conn. Catalog No. 9 on the company's ball bearings for the textile industry. Gives advantages of ball bearings, describes types of bearings, and contains illustrations of ball bearings on each type of textile machinery, showing how to use the bearings to advantage.

W. A. JONES FOUNDRY & MACHINE COMPANY, 4400 Roosevelt Road, Chicago, Ill. Complete catalog on cut and molded tooth gears. Contains dimensions, gear tables, and data helpful in designing and selecting gearing. Gives full information on advantages and limitations of raw hide pinions and bakelite pinions.

JOHNSON BRONZE COMPANY, New Castle, Pa. Catalog on bronze bearings, bushings, bars, electric motor bearings, babbit, and graphited bronze bearings. Contains progressive size listings, numerical listing of electric motor service bearings, etc. Also price list.

FOSTER MACHINE COMPANY, Westfield, Mass. Two folders describing the Model 102 winding machine for cotton, mercerized, woolen, worsted, merino, spun silk and rayon, and the Model 75 machine for winding silk, rayon, and cotton yarns.

WESTINGHOUSE ELECTRIC & MANUFACTURING CO., East Pittsburgh, Pa. Folder DMF-5851 describing fractional horsepower motors.

GOETZE GASKET & PACKING CO., INC., New Brunswick, N. J. Leaflet describing the boiler gaskets of the metal-jacketed and spiral-wound type.

ARMSTRONG-BRAY & CO., 304-310 N. Loomis St., Chicago, Ill. Leaflet on the Universal belt cutter for leather, rubber, or fabric belts up to 8 inches wide.

GENERAL ELECTRIC COMPANY, NELA PARK ENGINEERING DEPARTMENT, Cleveland, Ohio. 40-page booklet on "Lighting for Production in the Factory," in which are described the various types of lighting units, with illustrations showing application. Also much information on lighting engineering that will be helpful to mill man.

ARNOLD, HOFFMAN & COMPANY, Providence, R. I. Several leaflets describing products of company:

Ahcovel B, a new substantive softener and detergent.

Ahcovat Gum 622, a modern vat printing gum for rayon and cotton.

Synthrapol AS, a chemically balanced detergent and scouring agent.

Ahco Finish NM, for weighting and softening cotton, rayon, and wool.

Ahcovel A, a new synthetic softener of the substantive type.

Ahcopan Waxes WSA and WSX, new dispersed waxes for warp sizing.

RIGGS & LOMBARD, INC., Lowell, Mass. Three filler pages for catalog section describing machinery. The stainless steel stock dyeing machine; the "Fleet Line" positive pressure yarn steamer and conditioner; and the stainless steel dye kettle.

STEIN, HALL & CO., INC., 285 Madison Ave., New York City. Three pamphlets by F. G. LaPiana of the company. "Thickening Materials for Textile Printing"; "Sizing and Finishing"; and "Consistency Changes in Starch Pastes", with reference to tapioca, corn, wheat, potato, and sweet potato starches.

AMERICAN CYANAMID & CHEMICAL CORPORATION, 30 Rockefeller Plaza, New York City. "Key Products Used in the Textile Industry". A folder listing materials available and the purpose for which they are suited.

LEWELLEN MANUFACTURING COMPANY, Columbus, Indiana. Catalog No. 40 descriptive of the variable speed motor pulleys that have been available for a number of years. Carries specifications for design and ordering.

ANACONDA WIRE AND CABLE COMPANY, 25 Broadway, New York City. Folder descriptive of ANW insulated cable, especially suitable for use in extreme exposures to moisture and other adverse conditions.

DIEHL MANUFACTURING COMPANY, textile department, 267 Fifth Ave., New York City. Booklet showing actual installations and applications of motors in the textile industry throughout various processes. Outlines various types of motors and fans for industrial use.

S. BLICKMAN, INC., Weehawken, N. J. Folder descriptive of new type dye jigs and dye boxes of stainless steel, having rounded corners.

ALLIS-CHALMERS MANUFACTURING COMPANY, Milwaukee, Wis. Bulletin No. 1261-B on Vari-Pitch Texrope sheaves. Includes dimension sheets and a variety of installation photographs. Also, "Born in a Textile Mill," a new bulletin (No. 164) on Texrope drives, especially prepared for the textile industry.

REEVES PULLEY COMPANY, Columbus, Ind. Folder descriptive of the new hydraulic automatic control.

ROHM & HAAS COMPANY, INC., 222 West Washington Square, Philadelphia, Pa. Leaflet descriptive of Rhoplex resins.

S K F INDUSTRIES, INC., Philadelphia, Pa. "Better Spinning and Twisting," a 16-page brochure on the company's ball and roller bearing tension pulleys and roller bearing spindle bolsters.

◆

Soybean Fiber

In an address before the National Farm Chemurgic Council, R. A. Boyer of the research department of the Ford Motor Company told of progress being made to develop a fiber, similar to that of the synthetic wool made from milk casein, from the soybean. According to the report, definite progress has been made in developing an unholstery material, but it cannot be subjected as yet to laundering, though it will withstand much wear.

In "Textile Research" for April

"Properties of Gelatins and Glues and Their Relation to Warp Sizing," by Dr. W. E. Yelland, as published in the April issue of *Textile Research*, is the fifth of a series of progress reports of the warp sizing research that was conducted under the auspices of U. S. Institute for Textile Research at Massachusetts Institute of Technology and completed last Fall. That research was concerned mainly with the sizing of filament rayon warps. An extension of the study is now being organized to cover cotton and spun rayon warps.

"Technical Evaluation of Textile Finishing Treatments," by Prof. E. R. Schwarz, is the first of a series of progress reports of the co-operative research on this subject sponsored jointly by Massachusetts Institute of Technology and the American Association of Textile Chemists and Colorists. This report summarizes the scope of the work, discusses specifically the subject of fabric stiffness, and includes an extensive bibliography.

◆

Textile Analysis Course To Be Offered by M. I. T.

The Massachusetts Institute of Technology, Boston, Mass., has announced that a special program in principles of textile analysis will be offered during the coming summer session, beginning July 24, and continuing for six weeks to September 1. A comprehensive program for the study of textile technology and research will be conducted and will include lectures and demonstrations together with laboratory work for the six-week period each day with the exception of Saturdays. The exercises will deal with the principles of textile analysis as related to fabric, yarn and fiber structure. Microscopical as well as physical analyses are to be covered.

◆

Springer Assistant Credit Manager for Cutler-Hammer, Inc.

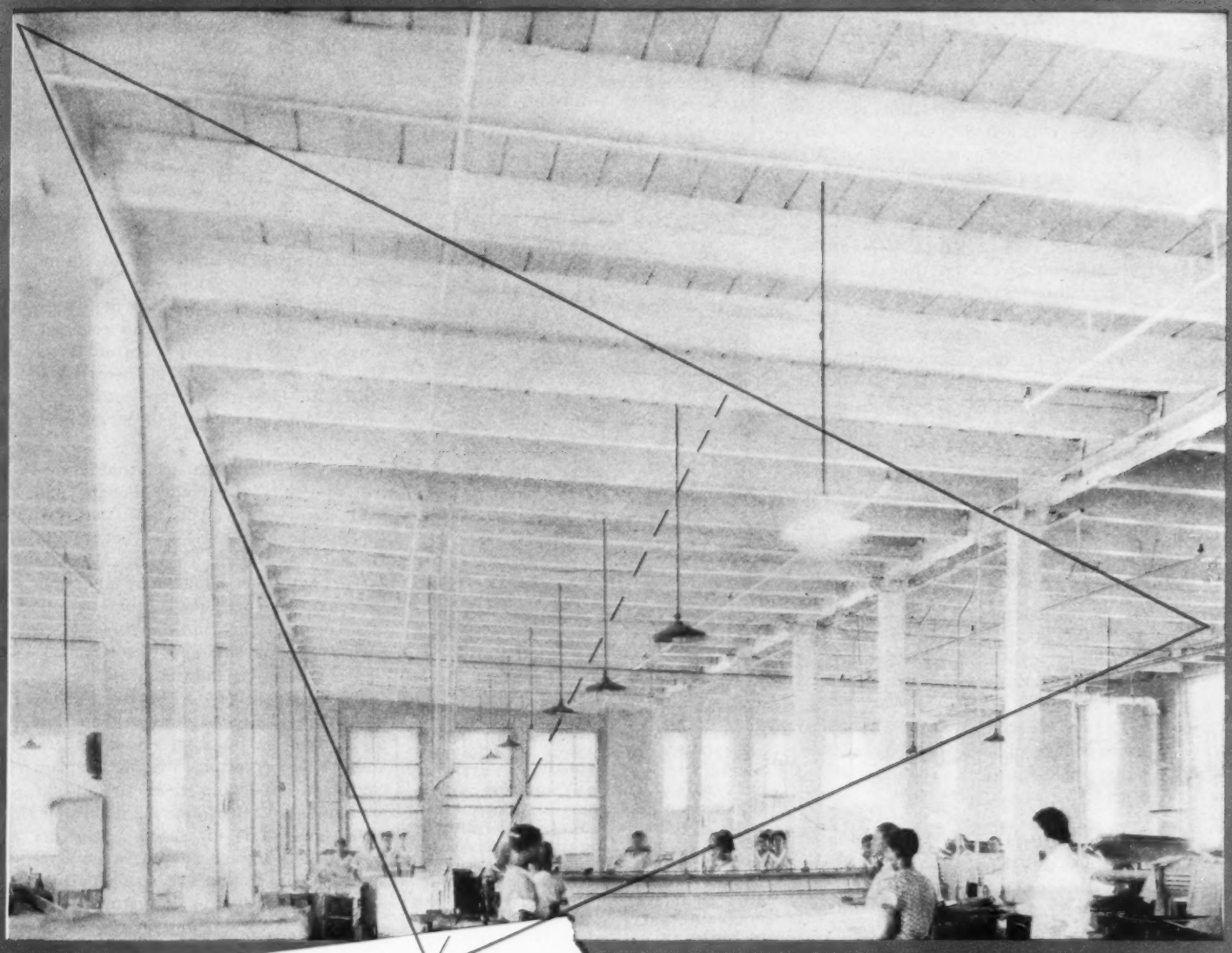
J. C. Springer has been made assistant credit manager for Cutler-Hammer, Inc., Milwaukee, Wis. He will assist W. E. Sargent, credit manager and assistant treasurer, in connection with the company's complete line of motor control apparatus. Mr. Springer has been with the company since 1928.

◆

Cotton Twine Bill in Senate

A bill introduced in the Senate by Senator Bailey of North Carolina would require the use of cotton twine except in cases where the purchase of twine not made of cotton is necessary in order to fulfill contractural obligations of the United States entered into prior to the date of the enactment of this act.

HERE'S AN AXIOM FOR YOU:



whiter paint = more light
more light = better sight
better sight = quicker work
quicker work = lower production costs

∴ whiter paint = lower production costs

Q.E.D.

There's no getting around it—the whiter the paint, the more it reflects light, the harder it puts your plant ceilings and walls to work for you!

So—when you buy white paint, make it Sherwin-Williams Save-Lite. Long noted for its lasting whiteness, this leading industrial paint is now made actually whiter...still greater in light reflecting power.

Call in the Sherwin-Williams painting technician. Have him inspect your plant. Let him specify the exact type of Save-Lite best fitted to meet your plant's every painting condition. There'll be no obligation. Or write for the free Sherwin-Williams "Plant Conditioning Report." Address The Sherwin-Williams Company, Cleveland, Ohio and all principal cities.

SHERWIN-WILLIAMS

SAVE-LITE

THE LIGHT CONDITIONING PAINT

OBITUARY ITEMS

JOHN F. MCGINNISS, 54, engineer and salesman for the Whitin Machine Works, Whitinsville, Mass., passed away March 2 after a long illness. Mr. McGinniss was widely known in this country and in Canada.

HARRY T. HODGES, Pepperell Manufacturing Company in the New York office, passed away the first of March at the age of 57.

THOMAS H. WEBB, 68, retired president of Locke Cotton Mill Company, Concord, N. C., passed away in an Atlanta, Ga., hospital on April 10. He was a former president of the American Cotton Manufacturers Association and of the North Carolina Cotton Manufacturers Association.

I. EUGENE CRAIG, 42, vice-president and manager of Lola Mills, Inc., Stanley, N. C., succumbed to an attack of the heart April 10. He took an active part in civic affairs and was greatly respected in the community.

ERNEST HARDWICK, 48, for many years connected with Oscar Nebel Company, passed away the middle of March.

GEORGE HUTCHINSON, 74, formerly superintendent of John & James Dobson, Inc., mills, passed away March 14. He had been retired since 1927.

W. M. BRICE, SR., for many years connected with the Atlanta office of Draper Corp., passed away on April 4. He was the father of WALTER M. BRICE and ROBERT BRICE, of the same company.

GEORGE W. HUNDLEY, SR., president of Golden Belt Mfg. Company, Durham, N. C., died on April 5, following a lingering illness. His death followed by three weeks that of B. D. GADDY, superintendent of the company's full-fashioned plant.

JAMES MOODIE, 57, treasurer of the knitting firm of J. R. Moodie & Sons, Ltd., Hamilton, Ont., passed away at his home there during April.

GARNETT MCMILLAN, 64, formerly president of Richmond Hosiery Mill, Soddy, Tenn., passed away the last of March.

WILLIAM EDGAR POOVEY, 57, superintendent of the Dudley Shoals Cotton Mill and the Falls Manufacturing Company, Granite Falls, N. C., succumbed to a stroke of paralysis the latter part of March.

John Burton Shaw, general sales manager of "Cotton" from 1915 to 1935, passed away at his home in Marshfield, Mass., on Wednesday, March 22, 1939, following an illness of several years. In the spring of 1935, Mr. Shaw was critically injured in an automobile accident, which forced his retirement from active business, being succeeded at that time by his son, Arthur C. Shaw,

now eastern sales manager of "Cotton", who had been associated with him for 15 years.

Mr. Shaw brought to the textile advertising profession a rich and world-wide experience, a striking personality and an unflagging enthusiasm. He began his association with "Cotton" at about the beginning of the southern textile industry, and for 20 years, he contributed immeasurably to it and to the growth of the magazine serving it, which he aided in building, served so faithfully, and loved so well.

There was many a saddened heart and constricted throat among his countless friends and associates, in this organization and throughout the textile field and the industries serving it, when news came of his passing.

R. W. P.

Seeks Change in Cotton Contract

Changes in the cotton futures contract so as to bring the prices in line with what textile manufacturers actually have to pay for cotton were advocated in a statement issued recently by Leavelle McCampbell, chairman of the board of the Graniteville (S. C.) Company, the oldest cotton mill in the South. Quotations of cotton futures at artificially low prices, not infrequently a cent or more under the price that mills pay for the staple, are a hindrance to business, Mr. McCampbell said. This artificiality, he explained, was due to the fact that the futures contract is drawn in favor of the shipper of cotton. Both shippers and exchanges are supported by the farmers who grow the cotton and the mills which turn it into a usable product. The shippers and the Exchanges, he added, are in effect employees hired to transfer the crop from farmer to mill.

Mr. McCampbell said that the mills wanted changes in the futures contract which would assure spinnable deliveries, a clean stock, and honest weight. He pointed out that in 1938 the domestic cotton exchanges dealt in approximately 42,000,000 bales of cotton, about four times the crop, and that only about 36,000 bales are now "certificated" and deliverable on contract. Much of this certificated cotton is below the standard and he declared it unfair to base the entire cotton and cotton cloth price structures on such cotton.

The mill executive said that cotton was the only commodity bought and sold by gross weight and that the contract should be based on net weight. He finds this alone would increase futures quotations about four and one-half per cent without adding to mill cost besides improving the present unsatisfactory packaging of the crop.

The cotton Exchanges, which claim to be neutral in the controversy between the mills and shippers, say that their only purpose is to reflect the true value of cotton, Mr. McCampbell continued. To help clear the discussion he offered the following definition: "The true value of cotton is the net weight price agreed upon between a responsible buyer and a responsible seller, which culminates in actual delivery of such cotton, and marks a forward step on the road from producer to consumer." Without these elements, he concluded, a fictitious atmosphere is created.

◆

Durene News

Through its president, Dean Hill, the Durene Association of America reports favorable progress of its knitted cotton underwear promotion campaign. To date twenty-two underwear manufacturers are now identifying their Durene garments with Durene identification tickets and stickers. Mr. Hill indicates increased interest in the Durene identification plan on the part of retail stores.

Discussing the 1939 prospects of the mercerizing industry, Mr. Hill reports that for the first eight weeks of 1939 shipments of Durene yarn are 36 per cent ahead of the same eight weeks of 1938.

While admitting that shipments of mercerized yarn were at a low ebb in the first half of 1938, Mr. Hill points out that shipments during the first eight weeks of 1939 are 14 per cent ahead of the average of the previous three years for the same eight weeks.

Over 13,000 Oil Wells
PER SQUARE INCH

JOHNSON *Ledaloyl*
SELF LUBRICATING

BEARING BRONZE

● Up to 35% oil, by volume, means—the right amount of lubrication . . . . in the right place . . . . at the right time. The controlled structure of LEDALOYL—with its even arrangement of pores—provides a uniform flow of oil when in operation. Add to this the fact that LEDALOYL contains LEAD—the only sintered bearing to have this valuable metal as an integral part of the bearing—and GRAPHITE—evenly distributed throughout the bearing.

These are the reasons why LEDALOYL is the ideal self-lubricating bearing. The reason why it operates so *quietly*—so smoothly—and out-performs any other bearing on the market.

The self-lubricating feature is only one of many reasons why LEDALOYL delivers such unusual performance. Our patented process of PRE-ALLOYING the basic metals imparts an absolute uniform structure to the bearing. This gives greater strength and guarantees longer bearing life. The lead content likewise provides conformability. Investigate LEDALOYL for your bearing applications. Complete details are available without cost or obligation. Write today.

FREE

The complete story of Johnson LEDALOYL is yours for the asking—Write today for your copy—no obligation.

The MOST COMPLETE SLEEVE BEARING SERVICE in the world

JOHNSON BRONZE COMPANY
Sleeve BEARING HEADQUARTERS
530 SOUTH MILL STREET • NEW CASTLE, PA.

PERSONAL NOTES
about Men You Know

JOHN H. O'NEILL, for the past nine years connected with the Atlanta office of the Draper Corporation, has resigned to become associated with the Dary Ring Traveler Co., of Taunton, Mass. Mr. O'Neill will represent Dary in a sales capacity in the Georgia - Alabama - Tennessee territory, with headquarters in Atlanta, in connection with the company's present representative, CHAS. L. ASHLEY. Mr. O'Neill joined Dary on April 24.

Mr. O'Neill

FRED RIDENOUR, who has been connected with the Draper Corporation's Atlanta office for a number of years, has been transferred to the sales department succeeding Mr. O'Neill.

MARION T. GRIMES, of Gainesville, Ga., has accepted a position with the mill of Fabrica de Rosellon, Medellin, Colombia, South America. Mr. and Mrs. Grimes and their son, Harry, left by steamer from New Orleans on May 6, for Cristobal, Panama Canal Zone, flying from there to Medellin.

ALBERT L. FORD has resigned his position as overseer of weaving at the Swift Mfg. Company, Columbus, Ga.

CHARLES Y. HALL, JR., formerly superintendent of the Unity plant of Callaway Mills, LaGrange, Ga., has become night superintendent of the Southern Brighton Mills, Shannon, Ga.

JOSEPH J. NORTON has been promoted from assistant superintendent to superintendent of the Goodyear Clearwater Mills, at Cedartown, Ga., succeeding the late ROBERT H. STEWART.

GEORGE B. MOORE, formerly superintendent of the Whitney (S. C.) Manufacturing Company, has become associated with the Clinton Company, starch manufacturers, in a sales capacity, and is making his headquarters in Spartanburg, S. C.

W. G. COX, formerly overseer of carding at Ninety-Six (S. C.) Cotton Mills, has become general overseer of carding at the Mathews Cotton Mill, Greenwood, S. C.

J. D. CASSADA has resigned his position as assistant manager of Plant No. 2, Roanoke Mills Company, Roanoke Rapids, N. C.

E. S. CUNNINGHAM has been appointed general manager of the Dallas (Tex.) Cotton Mills Company.

DR. WERNER SCHLIE has resigned as sales manager of American Bemberg Corporation. Dr. Schlie sailed for Europe during March, but his plans for the future have not been made known.

CHARLES W. REID has been named as vice-president and general manager of the Waynesboro (Pa.) Knitting Co., succeeding JOHN B. EADER, who resigned recently.

THOMAS F. BRASTOW, laboratory assistant at the Lewistown, Pa., plant of American Viscose Corporation, has been made chief chemist at the new plant at Front Royal, Va. Other promotions from the Lewistown plant to the Front Royal plant are CHRISTOPHER W. BUEHL, assistant foreman of spinning department, who is now in charge of a similar department at Front Royal, and GEORGE S. LUX, assistant foreman of the viscose department, now in charge of the same department at Front Royal.

A. R. OLPIN has resigned from the Thrift Mill of the Kendall Company, Paw Creek, N. C., to become associated with the Ohio State University, Research Foundation, Columbus, Ohio, as research director.

D. R. NEELY, formerly superintendent of the Fletcher Mills, Huntsville, Ala., has become superintendent of the Boaz (Ala.) Mill & Gin Co.

CHARLES A. HIGGINS has been elected president of Hercules Powder Company, Wilmington, Del., succeeding R. H. DUNHAM, who is now serving as chairman of the board. Mr. Higgins has been with the company since 1915.

T. MOORE has become superintendent of the spun rayon carding department of the Aragon-Baldwin Cotton Mills, Rock Hill, S. C., coming to his present position from the Watts Mill, Laurens, S. C.

JOHN BONEY, formerly connected with the research department of Gayle Plant of Springs Cotton Mills, Chester, S. C., has been made night overseer of carding at this plant.

WINSLOW A. PARKER, credit manager of Southeastern Cottons, has been elected assistant treasurer of the company. He has been with the organization for 25 years.

T. R. MORTON, formerly overseer of carding and spinning at the Minnetonka Rug Co., Minneapolis, Minn., is now with the Opp (Ala.) Cotton Mills in the same capacity.

THURSTON KINSLER, who has been superintendent of the Central (S. C.) Mills, has become superintendent of the Courtenay Manufacturing Company, Newry, S. C.

HAROLD A. DEAL, formerly superintendent of Judson Mills No. 2, Greenville, S. C., has accepted a similar position with the Cornelius (N. C.) Cotton Mills.

CHARLES BINGHAM has resigned his position with the California Cotton Mills and has accepted a position with the Celanese Corporation of America; he will make his headquarters in Seattle.

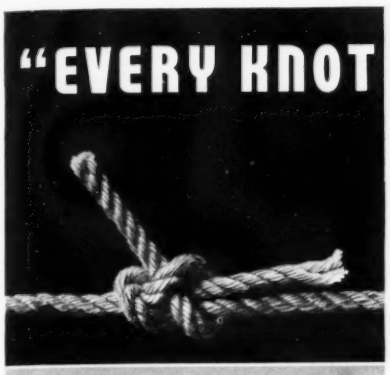
RUSSELL MCKINNEY, Chattanooga, Tenn., has become associated with the American Yarn & Processing Company.

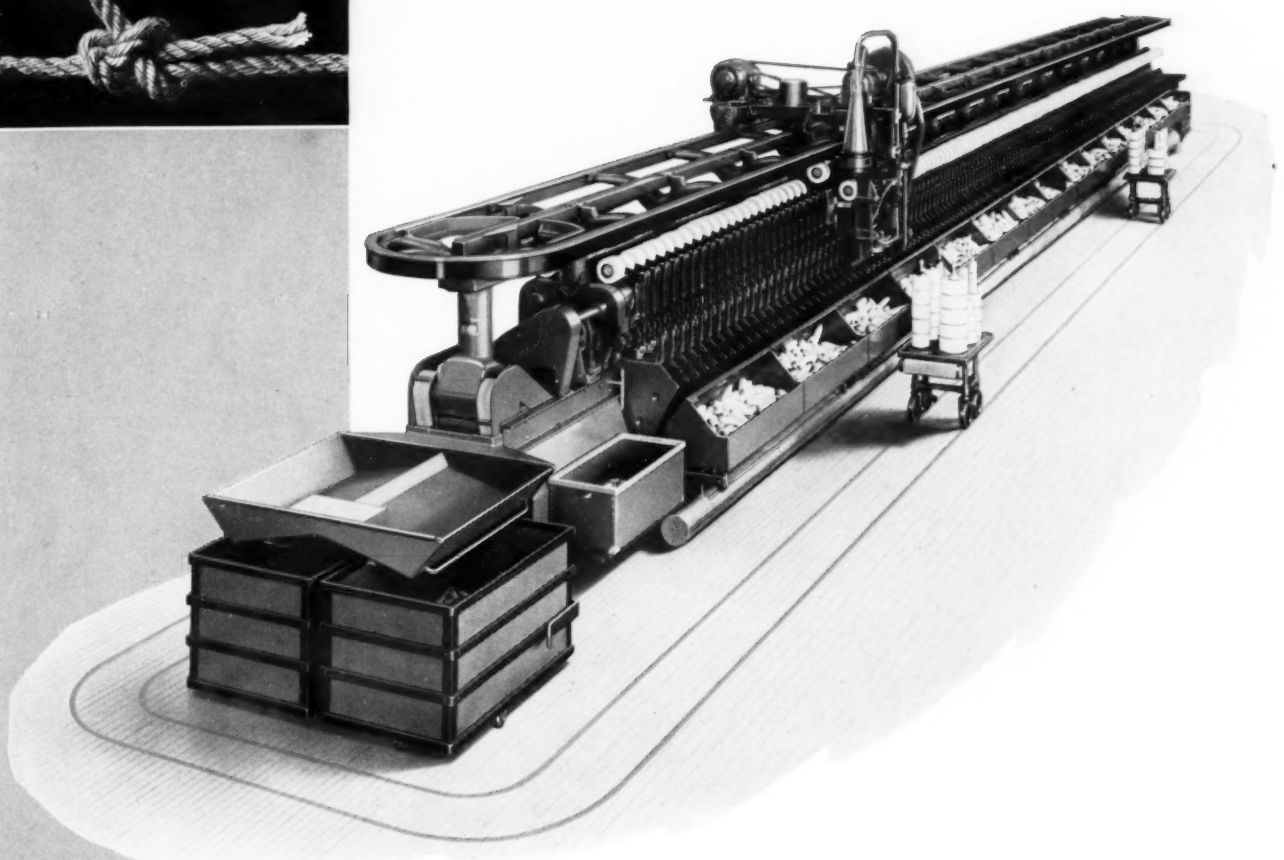
(Obituary Items are on page 102)

A POPULAR FOURSOME AT MOBILE

Left to right: Mr. and Mrs. Frank G. North, of Atlanta; R. W. Jennings, president of the Alabama Association; and Mrs. Jennings. Photo made on Mobile Bay, during convention of the Alabama Cotton Manufacturers Association, where Mr. Jennings presided as retiring president.

"EVERY KNOT A WEAVER'S KNOT"





Consistently uniform and perfect Weaver's Knots, tied by a fully automatic mechanism, enhance quality of goods woven from Barber-Colman warps.

BARBER-COLMAN Automatic Spooler

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

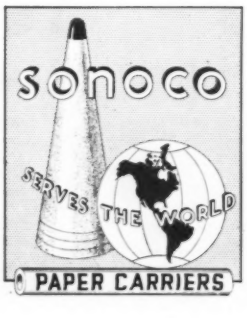
LONG RANGE *PLANNING* *in* PAPER CARRIERS

SONOCO'S plans for product and service of tomorrow, are completely divorced from the business of product and service today. They are carried on by men behind the men behind the scenes. Unhurriedly, day by day, without interruption, this work goes on . . . minor improvements, new products, major improvements and new machinery for greater efficiency, is all a part of this long range SONOCO Plan—a plan that has already been in effect over 40 years.

It explains the new 3° 30′ Cone—

It explains SONOCO'S unqualified world leadership in the field of Textile Paper Carriers.

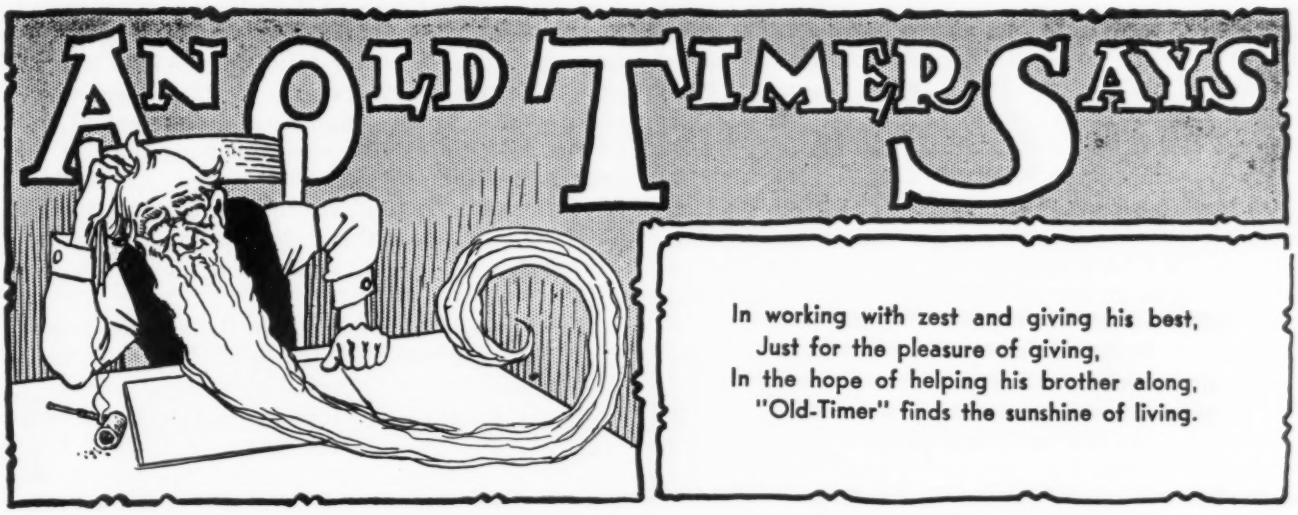
SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*



SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

The Editor Still Pinch-Hitting for "Old-Timer"

(At the Greenville Textile Show)

(The OLD-TIMER department in the April issue began a discussion between OLD-TIMER'S friend JIM and the editor with reference to the OLD-TIMER page. The article below is a continuation of this discussion. Since this is written in conversational style, it should be borne in mind that those paragraphs in *italics* represent "JIM'S part of the conversation and those in regular type represent the editor's remarks.)

Hey there, JIM.

Howdy, Mr. Editor, have you seen anything of OLD-TIMER*?*

Sure, he's around at our booth having a grand time talking to his friends as they show up. You know OLD-TIMER has been skipping around from place to place so much for the past year or so that he hasn't seen many of the overseers and superintendents for some time, and he is enjoying having the opportunity of shaking hands with many of them again.

Yeah, I remember now that he did not get to attend the last show because he was away out West, I believe, so I suppose he is trying to get all that he can out of this one. Will you have any time to spare while you are here, Mr. Editor?

Guess I'll be pretty busy, JIM. Why do you ask?

Oh, I just thought if you did have any time to spare I'd like for you to continue that conversation about the OLD-TIMER *page.*

Let me see, JIM, I do not see how we could have much private conversation here without OLD-TIMER butting in. You see, he is at the booth most of the time and that is about the only place we could hold a conversation. Maybe we could get away a little early tonight and go to our room—

That's fine, Mr. Editor, you say when and I will be there.

(In the editor's hotel room)

Now, let's see, JIM. Where did we leave off in our conversation about the OLD-TIMER page?

You told me how the OLD-TIMER *page happened to get started and that the title of his first article seemed to strike the readers as a practical thought and that the title finally developed into the* OLD-TIMER *Club and was used by many manufacturing concerns at their sales conventions and that Dr. Daniel—*

Oh yes, JIM, I remember now. The next few articles were interesting, of course, but there wasn't any outstanding feature in them like the article we discussed in our first conversation. However, all of the articles had woven into them many good points on manufacturing which our reader overseer and superintendents could apply in their work. In fact, in the preparation of all of his articles, OLD-TIMER'S paramount idea not only has seemed to be to inspire overseers and superintendents to put forth extra effort to improve their jobs by using the many manufacturing points illustrated, but he made a special effort to persuade all of his readers to improve themselves by obtaining more knowledge of manufacturing and also pointed out that they should read and study much material which was not prepared or intended especially for textile students but would improve their general education and make them more efficient textile men.

Then at irregular intervals he would have an article dealing exclusively with some branch or department of a mill. For example, in one of the articles, he went into lengthy detail to show how the average mill could save one inch of cloth on each cut taken from the loom. But the article was prepared in such a way that in explaining to overseers and superintendents how to save this one inch of cloth, he gave them the thought and the method, if they studied the article carefully, by which they could use their own brains in making other savings in the mill which would amount to many times one inch saving on each cut of cloth. This rather odd way of exciting the interest of readers seemed to appeal to the majority of overseers and superintendents because while they were reading the articles it caused them to use their own brains and experiences in applying his simple reasoning to their own

management, and once an overseer or superintendent had this experiece of seeing the ideas actually work with his own job, naturally he was looking forward to receiving the next OLD-TIMER article to see if he could get another practical idea.

So that is how or the reason why the fan mail began to come in, was it, Mr. Editor?

Yes, I suppose that is about as clear an explanation as I could give, JIM, and as well as I remember, the article I have in mind where this method first began to show up was an article entitled "Some Practical Points on the Cloth Room" which was later reprinted in Vol. 1 of the OLD-TIMER articles as we put them in book form.

And along about this time he seemed to get "all het up" about the fallacy of overseers and superintendents discharging employees, and brought forth some rather convincing thoughts to prove his point.

Then we had quite a long series of articles dealing almost entirely with inspirational subjects under such titles as "There Are More Good Jobs Than There Are Good Men to Fill Them", "Don't Envy Successful Men —Be One", "Make Yourself a Profitable Investment for Your Employer and You Will Share in the Dividends"—and many others which seemed rather to lead up to: "OLD-TIMER'S First Visit With JIM."

Oh, my goodness, Mr. Editor, don't go over that again. That was sure some headache—

Do you mean to say, JIM, that you are still sore about OLD-TIMER ribbing you so on that first trip?

No, not in the least, Mr. Editor. In fact, the more I think of what OLD-TIMER *has done for me, even if he has had a lot of fun out of it, the more I realize how fortunate I have been to have the opportunity of working with and for him, and although he has some strange and rather unorthodox ways of going at you when he wants something done, he usually gets it done, and that is the main point. He has related to me how he really made enemies of a few young men he was trying to teach the textile business to, because he used methods which they never did realize were for their own personal benefit.*

Now, JIM, before we discuss more of the articles, let's glance through this old pile of letters that I brought with me and see if we can find any definite information or proof that those articles have actually benefited any one. You know, if we can show our present readers where readers of several years ago really got a dollar and cents value out of something—something which enabled me to be promoted—something that enabled them to improve their jobs and at the same time gave them the pleasure of knowing they were improving themselves personally—who knows but that some of the present readers who now read the articles just to be reading, will get all pepped up and realize that if OLD-TIMER'S practical philosophy helped others, it will help them too.

Now here is a typical letter, and the fact that it is from a foreign country probably makes it a bit more interesting. I will read you a paragraph or so: Enschede Brouwerystraat No. 29, Holland, 27th of August, 1932.

Well, Mr. Editor, I did not know COTTON, *just a textile magazine, was read in foreign countries.*

Sure, even in the OLD-TIMER file we have many letters from readers in India, Spain, Russia, Japan, South America, etc. The writer from Holland says he started OLD-TIMER five years ago, (1927), when he was overseer of a small spinning room and that "I have been a good deal of a success following the tips that you dealt with on the OLD-TIMER page. 'Two thirds of promotion is motion' are the words which inspired me every time I read them, and the article in the May issue has given me the ambition to 'follow the leaders'."

So you see, JIM, our friend in Holland has received promotions and has also made himself happier in the thought that he has improved himself personally.

And here is a letter from Welland, Ontario, dated May 25, 1932. This letter is written to W. R. C. Smith Publishing Company, but because it is about OLD-TIMER it was placed in his file. One paragraph says, "His articles are not only interesting but *inspiring.* His odd style of expressing ideas is forceful. I hope the old man lives to be a hundred years old and keeps on writing. I am a member of the OLD-TIMER Club."

An overseer of a large North Carolina plant says, "It might interest you and OLD-TIMER to know that the second hand in our new weave room lined up his 11 loom fixers and himself 100 per cent for COTTON on the strength of OLD-TIMER'S articles on loom fixing. Many of the second hands and loom fixers in the other weave rooms are also following the OLD-TIMER articles in each issue."

And look here, JIM—here's a letter written in February 1933 by the president of a college where one of our prominent textile schools is located. He says, "I have just read your article 'What Are You Doing With It?', which is most interesting and instructive. Do it again and I will read another article with the same pleasure."

Well, by Heck, Mr. Editor, that's another surprise: the president of a college and textile school reading OLD-TIMER.

But it's letters like this one here, JIM, that shows definitely that overseers and superintendents and section men are profiting by the practical articles. This letter is from the president of one of the largest textile firms in Georgia and is dated April 16, 1932: "Our general superintendent is so pleased with what OLD-TIMER says that he has come to me suggesting we subscribe for 50 copies for distribution over our organization."

And to let you see that sometimes other firms besides mills read the articles, here's a letter from a large chemical manufacturer in Philadelphia who writes, in January 1933: "I went over with considerable interest the collected OLD-TIMER articles, and it is easy to see how these articles are so deservedly popular. They are imbued with the same simplicity and honest homeliness that were found in Franklin's 'Poor Richard's Almanac' and in our day and age in the character and speeches of Calvin Coolidge."

Ha, Ha! Now that's a good one, Mr. Editor. I can see OLD-TIMER'S *face turn red when I call him Poor Richard the next time I see him.*

(Continued on page 86)

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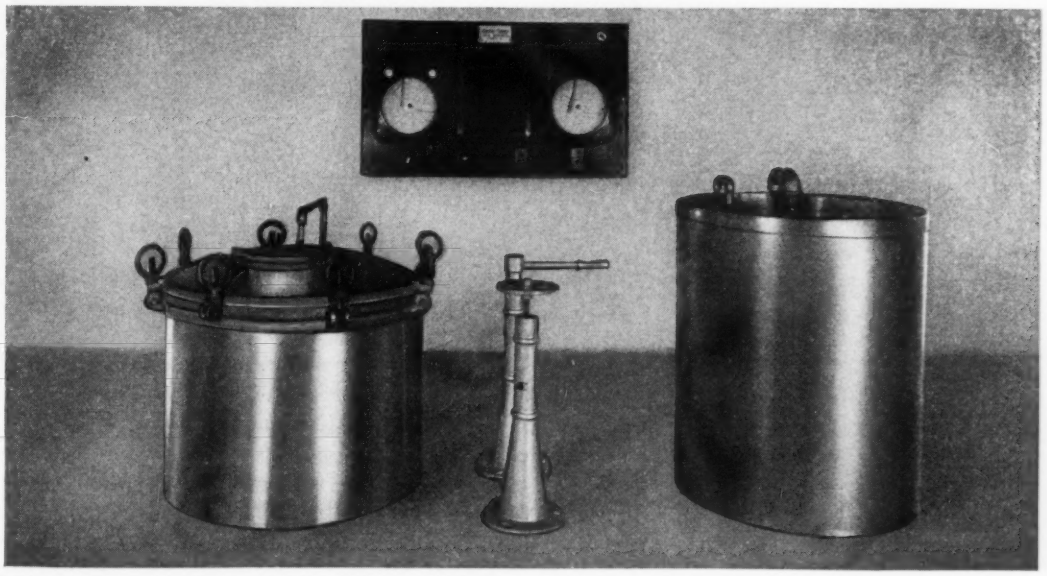

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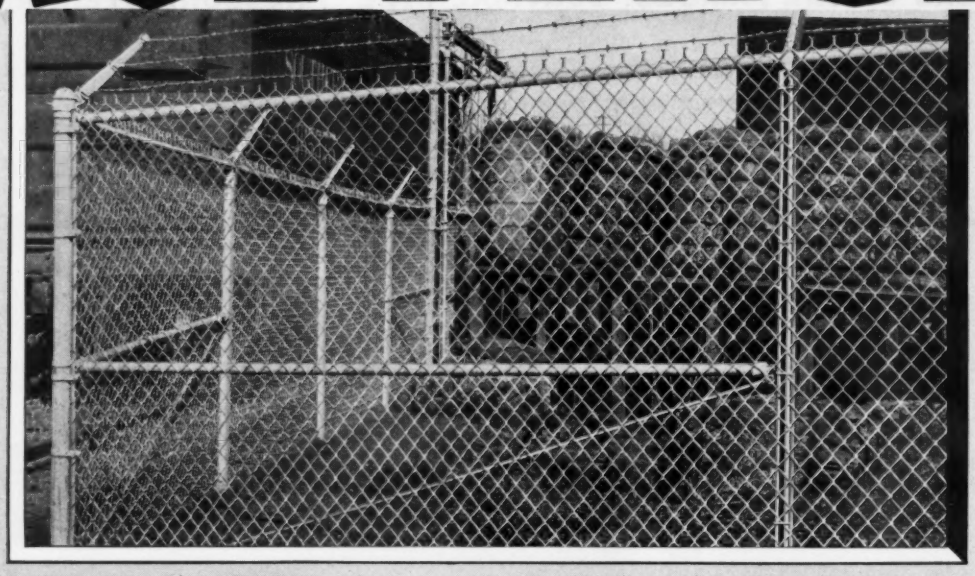

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HOW OTHER MEN MANAGE

Training Loom Fixers

EDITOR COTTON:

In answer to "CONTRIBUTOR NO. 6435," who inquires on page 83 of January 1936 COTTON as to methods of training loom fixers and weavers that can run the work in his plant and at the same time continue to carry on year in and year out without the customary roving from mill to mill, I should like to explain our procedure concerning fixers.*

For a long time we hired loom fixers that came to us as "real fixers" only to find that either they became restless and went to another place just as they had always done in a year or so, or were always looking forward to leaving and would not take enough interest in their jobs to build them up.

It is an established fact among people that they are always "going home." This applies to the operatives in cotton mills. The mill where an operative "learns up" will always be home to him. For this reason, in selecting a man or boy we wish to train for the job of fixing, we go to our own mill hill for him. This is not speaking literally because a man from the nearby farm will do just as well, but we don't get help that has been working in other plants close by and train them especially for a job. We know that sooner or later they will "return home."

Having decided on a prospect, we first put him to weaving to get the principal idea of the weave room, that of producing first-class goods. Here it is important to select the proper teacher; he must be one who will be patient with his student and watch him closely. The prospective fixer learns to inspect his cloth, watch his back alleys, keep his dirty hands off of the cloth, and in short, to weave. Since we are training a loom fixer, we do not believe it is necessary for him to become an expert weaver, but he should be able to run a small set of looms.

As soon as this part of the training is over we let the student overhaul for a week or so. By this time he has probably already begun to take an interest in the mechanical working of the loom. This overhauling period shows us whether the prospect is mechanically inclined or not. If he is not, we may as well make a weaver of him; if he is, we then place him on a smash job with the understanding that he will be a section man as soon as he is prepared to fill the job.

The smash job is one that will vary as to the amount of work to be done. During his spare time the learner should be working with the fixers, overhauling, tying in warps, and taking down flags. It is natural for the smash hand to help the same fixer most of the time, but if he will divide his time and work with several of them he will get a broader knowledge of fixing.

When the prospective fixer has reached the point where he is able to diagnose and take care of small "flags," he may offer to run the job for a couple of hours during the next shift for one of the regular fixers. Being on the job by himself will give him confidence and should something come up that he cannot fix, the company will lose very little in that short time.

Gradually we give the smash hand spare fixing jobs and then he is made the regular spare fixer. When a section comes open we put him on the job.

A man will never really learn to fix looms until he has a section of his own. He must be with that job day in and day out and watch the results of his work before he can accomplish anything in the fixing line. It is here that he will learn the difference between *fixing* a loom and *patching* a loom.

It is of prime importance that the overseer take a personal interest in the learner. If he is put on the job and forgotten it is a ten to one chance that he will turn out to be just another operative, whereas if the man in charge of the department acts as if he wants the new fixer to learn, he is going to learn and learn right.

A new man must be taught that the fastest fixer is not always the best. He must understand that his job will run worse in six months than ever before—his first work will just begin to show up. But all of us had to go through that stage and until he does too, he will not be valuable to the company. The learner may even come to the office and ask for his smash job again. When he does, we send him back on his loom fixing section.

This doesn't mean that he is a quitter, he just wants it known that he is doing his best, and we find that if we will bear with him he will make a good man.

By following the foregoing procedure a man should be able to go on a section in six months and run it without costing the company money inside of a year.

*There has been much interest shown in this subject. The original question appeared on page 83 of the January 1936 issue, and subsequent discussions appeared: April, May, August, September, November, and December, 1936; February, April and November 1937.

WE invite our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

I've seen it work in much less time than that.

When we hire a learner, we explain to him that we are training him for fixing; however, that at the present he is worth nothing to the company but that we shall pay him a small salary on which to live. When he is able to run a job that pays more we still do not pay him the full time until he has paid the company back the money it invested in him while he was learning. By this procedure the man is trained and given a job, benefiting him, and the company loses no money and gains a valuable operative, benefiting it.

CONTRIBUTOR No. 6448

The pH of Water for Sizing

EDITOR COTTON:

For best all around results in sizing goods, the pH value of the water should be as near 7.0 (complete neutrality) as possible. But in checking the pH value, the water to be tested should first be boiled and then cooled in a closed vessel. Water sometimes neutral when cold may be found to be 8.0 or 8.5 after being boiled and cooled. The elevation of this pH value may often be due to removal of dissolved gases by boiling. An example of this is carbon dioxide. When the weather is cold or when the water is cold, carbon dioxide is soluble in it, or is held in greater percentages than in warm weather.

Water that is excessively acid, for instance having a pH value of from 5.0 to 5.5, usually is sufficiently acid to have some bearing on the thinning of starch products in the size mix. This would bring about the gradual thinning of a mixture and result in poor slashing and weaving.

Of course, many other factors must be considered besides the water. The starch itself may be too acid, or the materials added for softening purposes may be improperly suited.

Starches stand up better in relation to viscosity if the mixture is neutral to slightly alkaline. Exact neutrality is better; if the pH value is too high it generally results that there is foaming or frothing of the size mix, resulting in poor coverage of the warp.

In certain instances, water condensed from the slasher cylinders is being used with ideal results for preparing the size mix. Such water is as neutral as it is possible to obtain, is free of calcium and magnesium salts, and closely approaches distilled water in purity.

Colored Spots in Size Box

Occasionally black spots appear in the size box and are picked up by the warp yarn. These may be caused by excessive grease on the squeeze roll journals, grease from the gears of the cooking or storage kettles getting in the size mix, or the circulating pump conducting grease into the system. Another cause may be that the kettle is not lined or the lining is broken, permitting scale to enter.

Brown or yellow spots have been caused by fats breaking out of a thin starch mixture when the slasher is stopped momentarily or when it is on slow speed. The green spots that appear could be caused by the free fatty acids in softeners acting on copper linings. The brown or reddish brown spots usually are rust, coming from dirty or unlined size kettles.

CONTRIBUTOR No. 6917

Ends Down in Spinning and Size of Roving Bobbin

EDITOR COTTON:

"CONTRIBUTOR No. 6894", in his question on page 121 of the February issue, wonders why ends down at the spinning are highest when the roving bobbin is from ¼ to ⅔ full. There is no doubt that such a condition deserves wonder—and correction.

While pondering this question, I decided to run ends-down tests in my plant to verify the supposition that bobbin size affects the ends-down.

My procedure was as follows: 525 spindles making 11s filling were creeled up with full 10x5 bobbins of roving, single creel. The frames were started and a record of the ends down kept. At three-hour intervals the ends-down record sheets were changed, but the record-taking went on continuously until the roving ran out in the creel. Since the roving ran for an 18-hour period, I had six ends-down records covering three hours each.

A comparison of the number of ends down for each 3-hour period with other like periods should, I thought, reveal any trend connected with the size of the roving bobbin in the creel.

While the number of ends down varied considerably from one 3-hour period to another, *I was unable to find any correlation between the ends down in the spinning and the size of the roving bobbin in the creel.*

This finding does not mean at all that "CONTRIBUTOR No. 6894" is mistaken, but it does prove pretty conclusively to me that he has some trouble in his plant that is evidently not present in mine.

It seems logical to me that if there are certain points in the roving bobbin where the spinning ends come down worse, those points must be places where the roving has been overstrained in winding it on the bobbin at the fly frame.

This line of reasoning would lead one straight to the conclusion that either the cones on the fly frames are improperly designed or they are not being used to the extent of their maximum efficiency. Of the two possibilities, the latter is the more likely.

We have taken a great deal of care in our plant to prevent uneven roving due to over-stretch. This probably accounts for the fact that our spinning ends down do not reflect the bobbin size in the creel.

Our method of keeping our tension even on the roving frame is to make a periodic check on every hank roving which we make, using a roving tester.

There are several different kinds of these testing machines, but the one which we use records on a graph the variations in the tensile strength of the roving as it passes through the testing machine. The

whole bobbin can be graphed or a series of places in a bobbin may be graphed on the long paper chart.

If the graph line stays fairly straight throughout the bobbin, then we know that the roving is being wound on the bobbin with an even tension and we have nothing to worry about.

If, however, the graph line should be low at the first of the doff (when the bobbin is small) and then pick up, the indication would be that our frame was starting up too tightly and stretching the roving.

A chart which started normally and then dipped toward the middle of the bobbin would indicate something wrong on our cone or with the lay or tension gear. Likewise the graph showing a weak full bobbin indicates that all is not well at the end of the doff.

Of course the roving testing machine cannot tell us what is wrong, but it can tell us where it takes place in the bobbin and in what direction. This should be enough for any smart card room overseer.

The equalization of the tension from one end of the doff to the other sometimes requires considerable juggling of the cone, lay and tension gears as well as the starting position of the cone belt. The improvement in the running of the roving frame and in ends down at the spinning ought to make the effort more than worthwhile and the roving tester an absolute necessity.

If "CONTRIBUTOR NO. 6894" exhausts all of these possibilities and still is unable to attain an equal tension throughout the doff, I think it would be in order to call in a representative of his roving frame manufacturers and ask him to provide a cone of the proper shape to produce the desired results.

When the tension is equalized from start to finish of the doff, the carder may find that he doesn't have to run as much twist as formerly because he will not be having to guard against the weak places formerly in his roving causing break-backs in the spinning creel.

CONTRIBUTOR NO. 6914

Broken Filling using the Larger Shuttle and Quill

THE FOLLOWING QUESTION was received by the editors of COTTON and passed along to several mill men to answer:

"We have recently changed from the short shuttle to the long shuttle and our problem now is that filling is knocked out, both pieces and whole bobbins. This did not occur before the change, or was not so noticeable. The old bobbin was 7¼ inches in length and the new bobbin is 8 inches. The new shuttle is 1⅞ inches wide, 15¾ inches long point to point, and 1⅜ inches deep. The loom speed is 170 picks per minute, with 40s filling on the E Model loom. We changed our end-lay plate on the battery end but not on the lever end. We have tried cementing flannel inside the shuttles, used bristles, etc., but to no avail. We still have filling knocked out. The filling is usually cut or broken up near the shuttle eye and close to the bobbin. We should appreciate any information on preventing this difficulty."

CONTRIBUTOR NO. 6872

The first answer gives us the following information:

As there was no trouble before changing from the regular bobbin and shuttle to the longer, it can be assumed that the mechanical condition of the loom is good and the trouble is directly traceable to the use of the longer bobbin.

Filling breaking is a big subject, but to list a few of the causes may be of assistance. More breaks per bobbin should be expected when using the longer quill because there is more yarn on the bobbin and more tension on the filling. There is more balloon on the long bobbin than on the short, which causes the filling to break more often, but in using bristle or flannel in shuttles, to remedy the balloon, often more harm than good is done because there is more tension on the filling when the filling runs down to the big end of the bobbin, and to have much tension on the filling causes it to snap. The extra tension that the long bobbins cause on the filling and the extra tension caused by using bristles or some kind of friction to prevent ballooning, will require a filling of good breaking strength.

Too much power on looms will cause filling to break, and since the change has been made to larger shuttles, the fixers might think the larger shuttles require more power. I have found that it requires no more power to run a loom using an 8-inch bobbin than the 7⅜-inch bobbin.

Filling breaking on the transfer is caused sometimes by the tip of the bobbin being snapped downward while transferring. The bobbin should be transferred into the shuttle so that the tip is pointing slightly upward to allow the filling to unwind if strained.

CONTRIBUTOR NO. 6908

Another answer to this question gives the following information for this contributor:

With reference to broken filling after changing from short bobbin and shuttle to the longer bobbin and shuttle, will say that this seems to be one of the natural results of such a change. In this case, let us analyze the situation to see exactly what does happen. As the length of the bobbin and shuttle increases so does the weight. This requires more power to move and consequently, more power to check when it reaches the other box. In addition the shuttle has a larger area in contact with the binder. There is also the tendency to place the tip of the bobbin too close up toward the shuttle eye. This causes the yarn to break when the shuttle spring catches two rings instead of three. This will necessitate very close setting of the check on the shuttle on the battery side.

The filling from a long bobbin in a shuttle has a different ballooning action from that of a short bobbin. The yarn swings out with somewhat the same effect as that seen when the ringrail of a spinning frame starts up on an empty bobbin. It is difficult to control this with bristles as their action is limited to the small surface in contact with the yarn

or bobbin. Fabric frictions are better because of the longer contact, but are still limited due to the fact that the flannel is too tight between the shuttle wall and the full bobbin, and too loose between the shuttle wall and the empty bobbin. Thin skin fur such as rabbit or muskrat which has a soft furry base and also long hairs has been used successfully to line shuttles, especially on finer counts. This fur is soft enough not to bind between shuttle wall and full bobbin, yet is full enough to prevent excessive ballooning between shuttle wall and empty bobbin, and this is where most of the trouble generally occurs.

The fur should be placed on the side of the shuttle toward which the yarn will unwind. When the bobbin is jammed into the shuttle forcing the fur downward and the yarn tries to unwind upward against this, the yarn is sure to be broken. To insure against binding the yarn against the shuttle side, the fur is best glued into a little space scraped out of the shuttle side. This space is about 1/32-inch deep, by ¾-inch wide, by 4 or 5 inches long depending on the length of the yarn on the bobbin. The fur strip should be about as long as the yarn on the bobbin not counting the tapers on each end.

Since the shuttle is longer there is more area in contact with the binder. To prevent cutting the yarn, the binder leather should be checked frequently to see that there is sufficient groove in it to allow the filling to fall into. At the same time the groove in the shuttle should be kept well filed out to prevent cutting yarn around the eye of the shuttle.

The usual precautions should be taken after changes to see that the shuttle is checked before it reaches the back of the box, and is not rebounding even slightly on the battery side. The feelers may be checked to see if they are centering the bobbin properly, and if they are striking ahead of the bunch rather than in the edge of the bunch.

CONTRIBUTOR NO. 6909

This is an open question and anyone may enter into it. If you have had experience with filling breaking after making the change to the larger shuttle and bobbin, let us have your experience for publication. If you have a theory on this, we will be glad to have it also.

Practices in Running Broadcloth Goods

A question and answers on counting or striking ends at slasher comb and reeding at loom for higher sley broadcloth . . . . . .

THIS MAGAZINE is continually acting as the clearing house for questions dealing with textile processing, and another example of the service it offers to the industry is the following question received from a large manufacturer who wished to check upon his methods with others of the industry. The question was passed to several mill men, who were invited to respond, and in turn the answers were exchanged, without revealing the source. Almost every man answered, and because of the general interest shown, the replies are passed along to other readers of COTTON. The question was:

"With respect to slashing the following broadcloth constructions: 128x68, 136x60, and 144x76, are the ends counted in on the comb at the front of the slasher. If so, how many ends per dent; or is the comb just struck in which will have a different number of ends per dent?

"Are the warps drawn in two ends or four ends per dent in the loom?"

The answers to the question are as follows:

Answer No. 1: "We have never made here any broadcloths in the high constructions to which you refer (128x68, 136x60, and 144x76), but we are making 112x60 broadcloth, and I am glad to give you our experience on this construction.

"In slashing warps for our broadcloths, the ends are counted in 8 per dent on the comb at the front of the slasher.

"The warps are drawn 3 ends per dent in the loom. We have run some warps in the 112x60 construction drawn 2 ends per dent, but found that we obtained more satisfactory results by drawing the warps 3 ends per dent. It seems that to draw 128, or higher sley cloth, 2 ends per dent would necessitate using a reed so fine that good weaving results could not be obtained.

"The only objection that we find to drawing our broadcloth 3 ends per dent is that we get more misdraws in our cloth than we would probably get with 2 or 4 ends per dent.

"We use 4 harness with staggered cams for this broadcloth."

Answer No. 2: "In reply to the question with reference to slashing broadcloths, we do count our ends in on the front comb. On 100x60 we put about 7 ends per dent and on 136x60 we put about 9 ends per dent.

"As to the question on 100x60, we draw 2 ends per dent and on 136x60 we draw 3 ends per dent."

Answer No. 3: "We always, when starting a set, lay our strings in at the back and run them around to the measuring roll at the front of the slasher. We use a separate string for each beam, and split the entire sheet of warp into two layers, one layer of the warp going over the big lease rod and the other layer going under the big lease rod. After the sheet of warp is divided at the big rod, the small rods separate each individual end.

"We always count our ends in at the front. The tender, before he runs in his lease rods to replace the strings, counts the ends from the string at the measuring roll, and the helper lays it in the comb. One of the essential and important things in broadcloth is cover, and in order to have cover, all ends must be laid as evenly as possible so that in weaving there will

Two Questions

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Most textile mills have found that NON-FLUID OIL is the answer to the second--and really important question. They know NON-FLUID OIL saves money on lubricant and application cost by outlasting oil 3 to 5 times. They know too, that it saves still more by staying in bearings and off goods.

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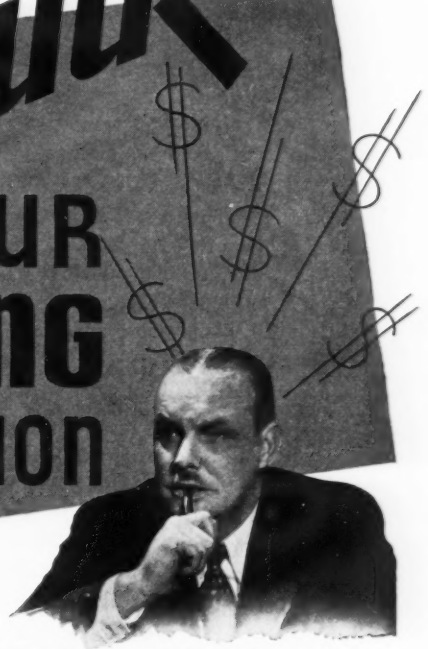


Do you know whether your drying cost is as low as it could be?

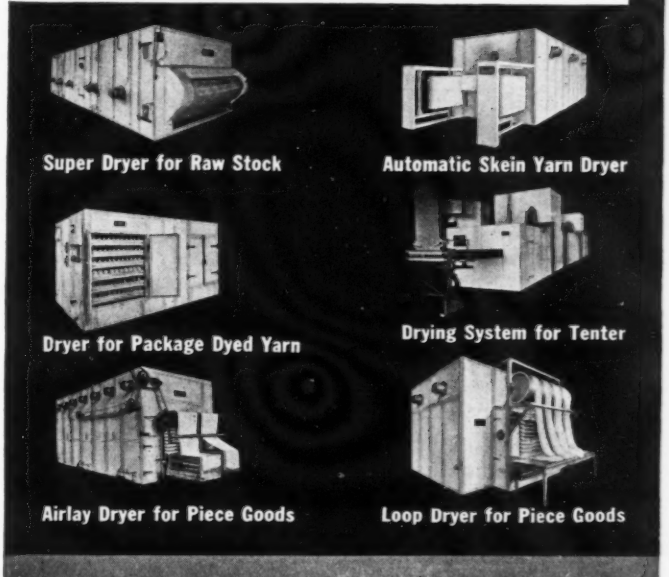
Are you getting results that are uniform and of as high a quality as those who use modern dryers?

Would increased production from the same or less floor space be advantageous to you?

Do you sometimes lose production because of mechanical or other troubles with your dryer?

In a great many plants throughout the country, where the drying stage has been given consideration, opportunities for tremendous economies have been discovered. The 1939 Proctor Dryers embody so many important money-saving advantages over even a year ago that you should make it a point to learn just how your present means compares with the newer, more efficient, low cost method.

Shown here are only a few of the wide variety of Proctor Dryers for the textile field. Details on the type for your individual requirements will gladly be supplied on request.


Super Dryer for Raw Stock
Automatic Skein Yarn Dryer
Dryer for Package Dyed Yarn
Drying System for Tenter
Airlay Dryer for Piece Goods
Loop Dryer for Piece Goods

PROCTOR & SCHWARTZ · INC · PHILA.

not be tight and slack ends to cause an uneven appearance to the face of the cloth.

"The number of ends laid per dent will be determined by the number of dents in the comb. We always lay just as few ends per dent as we can. On some of our counts, we can lay six, and on some, where we have more ends in the warp, we have to go up to 9 ends per dent. We reed all counts above 100 sley 3 per dent. To do otherwise would cause serious trouble; that is, two per dent would call for a reed too fine and give trouble in running, while four per dent would cause reedy cloth. Therefore, we use three per dent."

Answer No. 4: "We have not run any of the constructions mentioned, except the 136x60. I have talked with our overseer of weaving and he has had some experience on all three constructions, and I am giving you the benefit of the information which he has given me and which checks up with our own experience on the 136x60.

"In slashing warps for these constructions, the ends should be laid in the comb one end from each section beam in each dent, which will usually run about 10 ends per dent as there would generally be around 10 section beams.

"The warps are drawn in usually three ends per dent in the reed.

"Our man said that sometimes they had ordered special reeds for these constructions, giving up to 70 per cent air space and increasing slightly the width of the reed wire and decreasing the thickness to retain the strength."

Answer No. 5: "On our 136x60 we have one plant that counts the ends in the comb at the front of the slasher, putting from 12 to 13 ends to the dent. We have another plant which count their ends on the back of the slasher, putting the same number to the dent. These ends per dent are governed by the number of beams to the set. We draw all of our 136x60 broadcloths 3 ends per dent."

Answer No. 6: "Answering your inquiry as to practice in making broadcloth, I give below the answers requested:

"The ends are counted in the combs at the front of the slasher. We put 13 ends in each dent of the comb.

"Warps are drawn three ends per dent in the reed."

Answer No. 7: "We are glad to have your letter and give you answers to your questions as follows:

"The ends should be counted in on the comb at the front of the slasher. Assuming you use a 7-dent comb, you should lay in an equal number of threads per dent.

"We would recommend drawing the warps in 4 ends per dent.

"We are not making any broadcloths at the present time but it is one of our old lines on which we haven't done much recently. The above information is given you on the basis of how we would handle it on our usual quality basis though we are not really in production of these numbers at the present time."

Answer No. 8: "In compliance with your recent request regarding the information on the slashing of broadcloths, we would like to advise as follows:

"We actually count the ends in each broadcloth set so as to make an equal division in each dent on the comb in front of the slasher.

"The warps are drawn two ends to the dent on the loom reed.

"The warps are woven on the loom usually with 2-harness with double rows of heddle eyes in each frame. Also we usually run these constructions with a four-bank drop wire bar which tends to give more space on the grid section. (A 4-harness pattern runs much better than the 2-harness.)"

The editors of COTTON will welcome further suggestions on the foregoing topic. Or, should the readers have other questions, the editors will be glad to secure answers.

Mixing Staple for Blankets

EDITOR COTTON:

We would greatly appreciate some information regarding the running of cotton of mixed staple. We manufacture cotton blankets and bath-robe material, using coarse numbers and soft twist. Usually we buy cotton in small quantities with a different mix almost every week or two. Our main problem is in trying to set up our equipment to run this stock and hold uniform weights, waste loss, and finish.

Our layout is as follows: Single-process picking, single process drawing, long draft slubbers, conventional draft spinning with a twist multiplier 3.25 times the square root of the number.

Three grades of cotton are used: Strict Low Middling, Low Middling, and loose cotton in our filling stock. About 75 per cent of the white stock is loose samples which have been baled up and containing everything from ¾-inch weak staple to 1-inch hard bodied cotton. The other 25 per cent is usually ¾-inch light spots. The colored stock is made up of ¾-inch to ⅞-inch Strict Low Middling light spots.

If this practice is general we shall appreciate your advice. If it is a common practice, kindly give us information concerning roll settings and twist multipliers used.

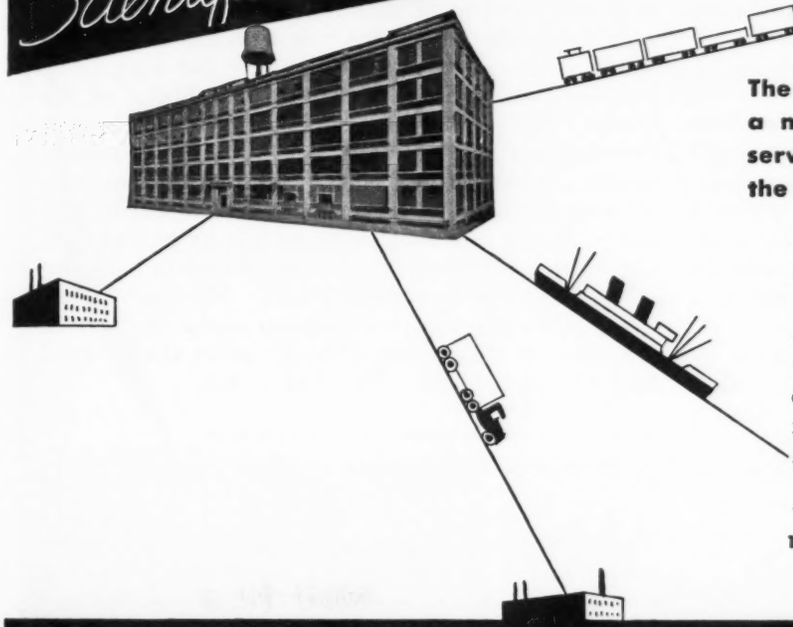
There are times when our work runs exceptionally good and then without any noticeable change in conditions our spinning runs bad, weights jump up or down, and blankets overnap or come out hard.

CONTRIBUTOR NO. 6918

The editors of COTTON will appreciate any information that may be valuable to this contributor. No names will be used. Thank you.

The Cross-Index for all articles appearing in COTTON *during 1938 is now available. If you have all issues of* COTTON *for 1938, the index will be sent free upon request.—The Editors.*

Scientific STORAGE *Facilities*



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To Figure the Battery Filler's Job

EDITOR COTTON:

In the July issue of COTTON, on page 89, "CONTRIBUTOR NO. 6848" submitted an inquiry relative to the number of batteries each battery filler should attend. He is running 26s filling, each bobbin of which will run 8 minutes and 10 seconds in the loom. His looms are 40 inches wide and are making 160 picks per minute. The battery fillers use small filling trucks which are pushed along in the weavers' alleys. These battery fillers do not have any odd jobs to perform. In view of the foregoing information concerning this man's problem, I will attempt to arrive at a solution in the discussion which is to follow:

In our mill we handle this type of problem by conducting tests on the battery filling. The main purpose of these tests is to determine how much a battery filler can do per unit of time. This is then compared with the amount of his work a loom consumes per unit of time, thus deriving a standard with which to work in laying out a set of batteries. I think I can be reasonably safe in saying that all mill men will agree that it is not wise to give our operatives more than they can do and obviously it is equally unwise to give them such a small amount of work so as to increase costs and impair our chances to receive the duly deserved profits. Therefore, in my opinion, the best way to eliminate the danger of going to the extreme in either direction is to run tests on a sufficient number of jobs and battery fillers to ascertain the ability and speed of the average battery filler.

A test of this type is very simple to conduct, the procedure being as follows: First, determine the number of bobbins a filling truck will hold, (assuming all trucks to be of the same size). Then select at least six battery fillers (the more the better), and have them fill their trucks. Have them begin filling batteries, noting the time each begins, and continue until the trucks are empty. As each operative empties his truck, keep a record of the minutes and seconds it required him to place the bobbins in the batteries. When all have finished, calculate the average time of all the battery fillers. Since the capacity of the truck is known, this time required to place the bobbins in the battery can be broken down into the unit of "bobbin minutes".

We have test records showing that our average battery filler can fill batteries at the rate of fifteen bobbins per minute. Incidentally, this figure covers the time required to move from one loom to the next as well as that required actually to place the bobbins in the batteries. We will assume for convenience that "CONTRIBUTOR NO. 6848'S" average battery filler can fill batteries at the rate of 15 bobbins per minute. A bobbin of his filling will run 8 minutes and 10 seconds.

8 minutes and 10 seconds = 490 seconds. There are 3600 seconds per hour, therefore 3600 ÷ 490 = 7.34 bobbins emptied by one loom in an hour. 15 × 60 = 900 bobbins, the number the battery filler can put in the batteries per hour. Approximately 10 per cent or 6 minutes of each hour will be consumed in refilling trucks and on the way between the job and filling boxes. Therefore, 900 × 10 per cent = 90 bobbins lost each hour during the refilling of the trucks. 900 — 90 = 810 bobbins actually placed in batteries per hour should the operative work continuously. About 10 per cent of each hour should be allowed for rest, patronizing the lunch wagon, etc. 810 × 10 per cent = 81 bobbins lost by resting, etc. 810 — 81 = 729 bobbins actually placed in batteries after deducting incidental losses. We might allow 6 per cent more time for running pieces that are in the cans, so this would further reduce the original figure by 44 bobbins. 729 — 44 = 685.

$$\frac{\text{Actual No. of bobbins placed in batteries per hour}}{\text{No. of bobbins 1 loom empties per hour}} = \text{Number of batteries the battery filler can attend.}$$

Thus, 685 ÷ 7.34 = 93.32 or 94 batteries. Of course the foregoing calculations are based on the assumption that "CONTRIBUTOR NO. 6848'S" average battery fillers can fill batteries at the rate of 15 bobbins per minute. In my opinion, this rate of bobbins per minute could be applied to the average battery hand in any mill, hence the calculations should be practical. Our rate of 15 bobbins per minute may be higher than many mills, but we do not "backwind" our filling, which operation may tend to retard the work of the battery filler. But on the other hand, should "CONTRIBUTOR NO. 6848" conduct similar tests a slightly varying result may be obtained. In the event that such variation in the rate of bobbins per minute should occur, he may very easily substitute his resulting rate in the foregoing calculations and determine the proper number of batteries each operative should attend.

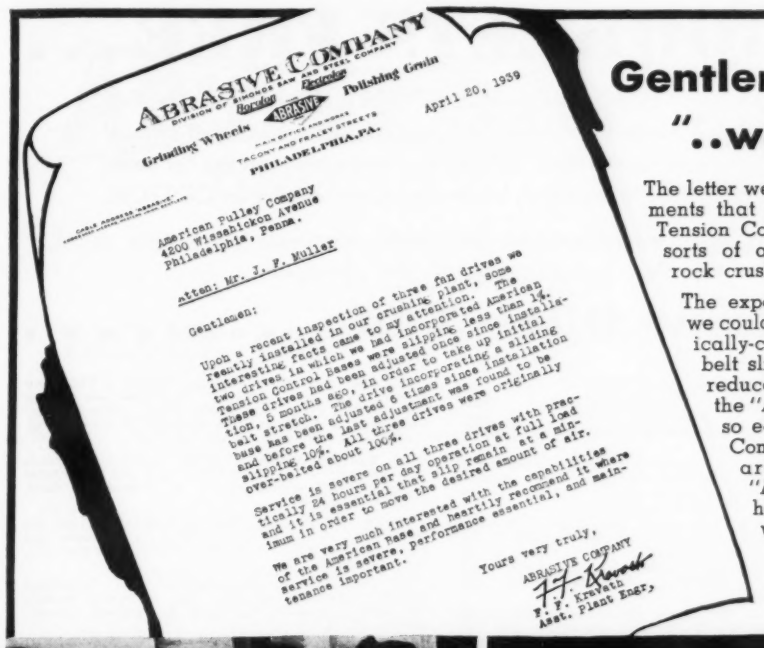
CONTRIBUTOR NO. 6880

Spinning Room Practice

(Continued from page 67)

the bosses of the top rolls, equalizing wear of the roll coverings. Individual roving trumpets will have to be set so that the roving will not run to the side and pass forward without being drafted. This will also happen if the stroke is too long, only on a larger scale. The trumpets must be kept tight and should be cleaned occasionally to prevent the accumulation of chokes. The cams and gears of the traverse should be oiled at regular intervals.

Good spinning depends so much upon the rolls—the type of rolls for the work being done, the mechanical condition of the rolls and their lubrication, the weighting of the rolls and their settings—the overseer will find that close supervision at this point will well repay him. In fact he may find this a good place for some study and experimentation.



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April 20, 1939

American Pulley Company
4200 Wissahickon Avenue
Philadelphia, Penna.

Attn: Mr. J. F. Muller

Gentlemen:

Upon a recent inspection of three fan drives we recently installed in our crushing plant, some interesting facts came to my attention. The two drives in which we had incorporated American Tension Control bases were slipping less than 1%. These drives had been adjusted once since installation, 5 months ago, in order to take up initial belt stretch. The drive incorporating a sliding base has been adjusted 6 times since installation and before the last adjustment was found to be slipping 10%. All three drives were originally over-belted about 10%.

Service is severe on all three drives with practically 24 hours per day operation at full load and it is essential that slip remain at a minimum in order to move the desired amount of air.

We are very much interested with the capabilities of the American base and heartily recommend it where service is severe, performance essential, and maintenance important.

Yours very truly,
ABRASIVE COMPANY
F. F. Krauth
Asst. Plant Engr.

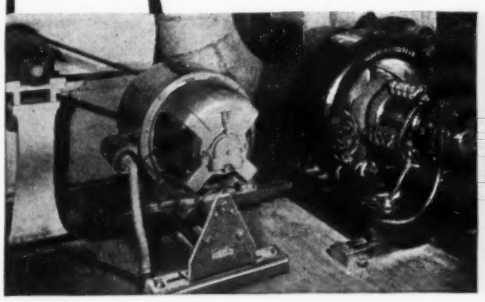
Gentlemen:

"..we heartily recommend.."

The letter we show here is typical of hundreds of favorable comments that we receive every year, praising the "American" Tension Control Motor Base, and telling of its efficiency in all sorts of applications . . . from fans, to spinning frames, to rock crushers.

The experiences of these users tell far better than anything we could say what amazing economies "American" automatically-controlled belt tension makes possible. It minimizes belt slip and belt wear, increases power efficiency, and reduces maintenance expenses . . . and on V-belt drives the "American" Base equalizes tension on individual belts so each one carries its share of the load. The Abrasive Company is so impressed by its performance that they are planning to install eleven more . . . at once. "American" engineers will welcome an opportunity to help reduce *your* operating expenses by demonstrating what "American" Bases can do . . . in *your* plant.

THE AMERICAN PULLEY COMPANY
Dept. 5, 4200 Wissahickon Ave.
Philadelphia, Pa.



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205. The Walker Method—8 page illustrated catalog describing the Walker method of quickly checking the efficiency of machinery. This improved method eliminates the losses resulting from improperly adjusted equipment. Walker Electrical Company, 926 Means St., Atlanta, Ga.

213. Saco-Lowell Cotton Machinery—Twisting—a 36 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

214. Saco-Lowell Cotton Machinery—Spinning—the second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

217. Diamond Fibre Hollow Ware—32 page booklet and catalog, attractively illustrated, showing various types of boxes, trucks, cans, barrels, baskets and trays of Diamond Fibre Hollow Ware. Of interest to every mill man in solving material handling problems. Free on request. Continental-Diamond Fibre Co., Dept. C, Wilmington, Delaware.

218. Butterworth Electric Guiders—6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider and is unexcelled for fast, accurate guiding. H. W. Butterworth & Sons Co., Philadelphia, Pa.

223. Alloyed Iron in Southern Industrial Fields—16 page illustrated catalog dealing with the properties available in modern cast irons. International Nickel Co., 67 Wall St., New York, N. Y.

224. "Tank Talk"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. R. D. Cole Manufacturing Company, Newnan, Georgia.

228. Solutions for Your Problems—20-page illustrated booklet containing valuable information on the scouring and processing of wool and other fibres. Detergent Products Corp., Atlanta, Ga.

233. Catalog No. 22—an attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. Meese, Inc., Madison, Ind.

234. They Stay Brighter Longer—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request. General Electric Company, Dept. 166, Nela Park, Cleveland, Ohio.

238. Glorified Light—A 32-page book illustrative of the vital part proper painting plays in scientific lighting and in the reduction of maintenance and production costs. Pittsburgh Plate Glass Co., Pittsburgh, Pa.

240. The New Proctor Automatic Yarn Dryer—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector. Proctor & Schwartz, Inc., Philadelphia, Pa.

253. Brown Air-O-Line Controllers — This booklet will prove invaluable to the men in charge of dyeing, finishing and slashing, as well as the textile executive. 32 illustrated pages describing the various Brown Controllers. The Brown Instrument Co., Philadelphia, Pa.

258. Automatic Overhead Cleaner for Spinning, Winding, Warping and Twisting—24 page booklet showing the new American MonoRail automatic cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner incorporates a new scientifically designed blower producing a whirling column of air directed and controlled so that it prevents accumulation of fly with no harm to roving. The American MonoRail Company, Cleveland, Ohio.

259. Cotton Conditioning with Texspray Compound—18-page booklet describing the Texspray method of cotton conditioning. It has been proven that this method will save money, increase production, increase flexibility of fiber, eliminate static and reduce fly and dust. The Texas Company, New York, N. Y.

260. Lubrication—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils. The Texas Company, New York, N. Y.

261. The Brown Moist-O-Graph—16 page booklet describing the Brown Moist-O-Graph which measures, records and controls the moisture content of cotton warp yarns. The Brown Instrument Company, Philadelphia, Pa

263. Gastonia Brushes—New catalog and price list showing the complete line of brushes for the textile mill. Gastonia Brush Co., Gastonia, N. C.

268. Factoring and Financing—Illustrated booklet which outlines the functions of factoring in the textile industry. Textile Banking Company, New York, New York.

269. Stainless Steel Equipment for the Dyeing and Textile Industry—Attractive four-page folder describing the Blickman line of dyeing equipment. S. Blickman, Inc., Weehawken, N. J.

271. The New American Adjustable Diameter Wedgebelt Pulleys—illustrated leaflet describing the American adjustable diameter sheaves designed to produce the best performance in all types of V-belt driven textile machinery. American Pulley Co., Philadelphia, Pa.

272. Where to Buy Monel Metal Textile Equipment—Attractive booklet which lists the names and addresses of experienced fabricators of Monel Metal equipment for the textile mill. The International Nickel Company, Inc., 67 Wall St., New York, N. Y.

277. Bulldog Rubber Tension Roll Covering—attractive four-page folder describing the new scientifically correct product designed for taking off all synthetic fabrics, natural silks and fine cotton goods. Boston Woven Hose & Rubber Company, Cambridge, Mass.

278. Textile Testing Laboratories—a 10-page illustrated booklet describing a modern textile testing laboratory and pointing out the necessity for laboratory air conditioning systems. Ask for bulletin 136. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, North Carolina.

279. When Cleaning's Automatic, a Spinner's Free to Spin—a 10-page illustrated booklet dealing with the Parks automatic traveling cleaner. Ask for bulletin 1036. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

284. Morton Nickel Iron Quick Opening Handle Gate Valve—Illustrated leaflet describing the new Morton Valve for dyeing machines, pipe lines, steam and water lines, boiler blower valves and throttle valves. Morton Machine Works, Columbus, Georgia.

286. Tricon W-30—Study of wetting agents and their activity with recommendations for textile processing. Rohm & Haas Co., Philadelphia, Pa.

287. New American Pulley Motor Base Catalog—an attractive new illustrated catalog describing in detail construction and application of new tension control motor base. Includes data comparing performance of drives with and without tension control motor base and applications are shown for both flat and V-belt drives. American Pulley Co., Philadelphia, Va.

289. Caustic Soda Bulletin—a data and reference book designed for the user of caustic soda. Complete with charts, drafts and formulas. Pennsylvania Salt Mfg. Co., Philadelphia, Pa., who also manufactures Hydrogen Peroxide.

290. Hyatt Roller Bearings on Textile Machinery of All Kinds—34 page booklet which describes and illustrates how Hyatt bearings are being applied to textile machinery. Hyatt Bearings Division, Newark, New Jersey.

291. Wolf Products for the Textile Trade—Illustrated booklet describing the Wolf line of chemicals for the printing, dyeing, sizing and finishing of all textile fabrics. Jacques Wolf & Co., Passaic, N. J.

293. Mind Your P's and Q's—Attractive folder describing and illustrating the brands, properties and uses of silicates of soda. Philadelphia Quarts Company, Philadelphia, Pa.

294. From a Locomotive to a Pig—Attractive ten-page booklet describing the advantages of Metso as an ideal cleaner in the textile industry. Philadelphia Quartz Company, Philadelphia, Pa.

295. Fence Facts—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence. Page Fence Association, Bridgeport, Conn.

298. Full Fashioned Hosiery Manufacture — Illustrated folder giving the history of full-fashioned knitting and describing in detail the different processes in present day manufacturing and the application of Gulf lubricants to the various machinery. Gulf Oil Corporation, Pittsburgh, Pa.

297. Lunkenheimer List Price Schedule R-1—new 44 page catalog covering the entire line of valves, boiler mountings and lubricating devices manufactured by the Lunkenheimer Company. The Lunkenheimer Company, Cincinnati, Ohio.

299. The New International Time Recorder—Information on the new automatic time recorder which gives complete wage and hour records. International Business Machines Corp., New York, N. Y.

301. Norma-Hoffmann Bearings Catalog — Norma-Hoffmann Bearings Corp., Stamford, Conn.

303. The New Boyce Rayon Knotter — This new knotter increases production, eliminates perspiration and chemical stains and makes clean, uniform knots. Over 2,000 of these knotters are now in use. A. B. Carter, Inc., Gastonia, N. C.

305. Tannate Belting — leaflet describing Rhoads Tannate leather belts and their uses and advantages in textile mill operation. J. E. Rhoads & Sons, Philadelphia, Pa.

306. Waterproof with Sco-Co—Information on the advantages of using Sco-Co industrial finishes and paints in the textile industry. Southport Paint Co., Inc., Savannah, Ga.

307. Lane Canvas Baskets—16 page illustrated booklet describing the Lane line of canvas baskets for textile use. W. T. Lane & Brothers, Poughkeepsie, N. Y.

308. Finnell Scrubbers—Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines. Finnell System, Inc., Elkhart, Ind.

310. Replacement Parts for Knitting Machines—attractive illustrated folder describing the Thomas & Skinner line of replacement parts for all types of knitting machines. Thomas & Skinner Steel Products Co., Indianapolis, Ind.

311. The Romance of Prairie Gold—attractive illustrated book which tells the story of corn and the uses of corn products in industry. Corn Products Sales Co., New York, N. Y.

312. Cork—The Modern Roll Covering—attractive booklet outlining the uses and advantages of cork for textile roll covering. Armstrong Cork Products Co., Industrial Division, Textile Products Section, Lancaster, Pa.

313. Detergent Wall Card—valuable and handy wall card listing pH strengths in both acid and alkali solutions. Chemists and dyers will find this chart invaluable in their everyday work. Detergent Products Corp., Atlanta, Ga.

314. Winding Production Chart—this useful production chart can be used for any style of winder. Also included are instructions for figuring yarn takeup speeds. Universal Winding Co., Providence, Rhode Island.

315. How Handling Problems Have Been Solved—a 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes. American MonoRail Company, 13106 Athens Ave., Cleveland, Ohio.

316. Ditto Payroll Record System—this special book has shown hundreds of textile men how to speed and simplify payroll routines. It shows how to save. Ditto, Inc., Chicago, Ill.

317. Circular Knitting Machines—a fifty-two page illustrated booklet containing valuable information on the manufacture of transfer top hosiery. Includes illustrations of rib knitting principles, yarn changers, selvage welt, loose course and methods of laying in Lastex. Sent free on request to Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa.

318. It's the Film—attractive folder describing and giving specifications for Lubriplate, the lubricant possessing features not found in conventional lubricants. Lubriplate Division, Fiske Bros. Refining Company, Newark, N. J.

319. Lubriplate—the modern textile machinery lubricant—attractive illustrated folder giving recommendations for textile machinery lubrication. Lubriplate is the new lubricant which forms a film on shafts, bearings, gear teeth, etc., which prevents wear, corrosion and contamination due to products of wear. Lubriplate Division, Fiske Bros. Refining Company, Newark, N. J.

320. The Control of Friction—four-page folder which shows why Lubriplate controls friction on textile machinery. Lubriplate Division, Fiske Bros. Refining Co., Newark, N. J.

321. Wooden Tanks for Many Purposes—attractive catalog containing much helpful data relative to general design and construction of wooden tanks for textile use. Also contains an interesting tabulation of experiments with different woods available for tank purposes. Hauser-Stander Tank Co., Cincinnati Ohio.

322. The Application of Soaps and Soap Products to Textile Processing—40-page illustrated booklet covering the principal operations in textile processing. Special notes and suggestions are given for those operations requiring soaps or soap products. Colgate-Palmolive-Peet Company, 105 Hudson St., Jersey City, N. J.

323. Textile Processing with Artic Syntex A and T—50-page illustrated booklet describing the properties of these new materials and giving tentative or suggested formulas for a number of applications in textile processing. Colgate-Palmolive-Peet Co., Jersey City, New Jersey.

CONTINUED ON PAGE 122

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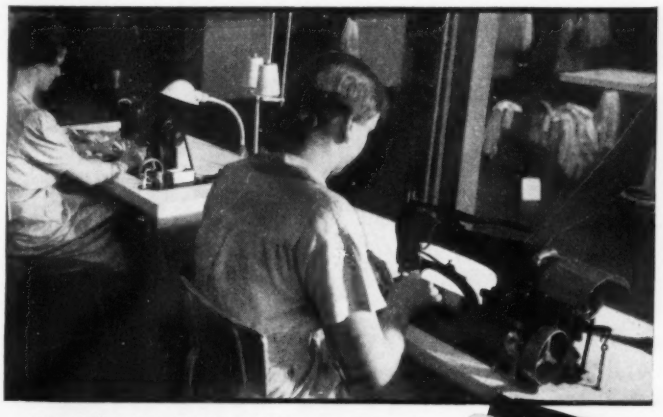

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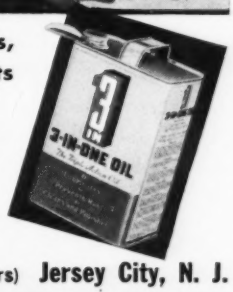

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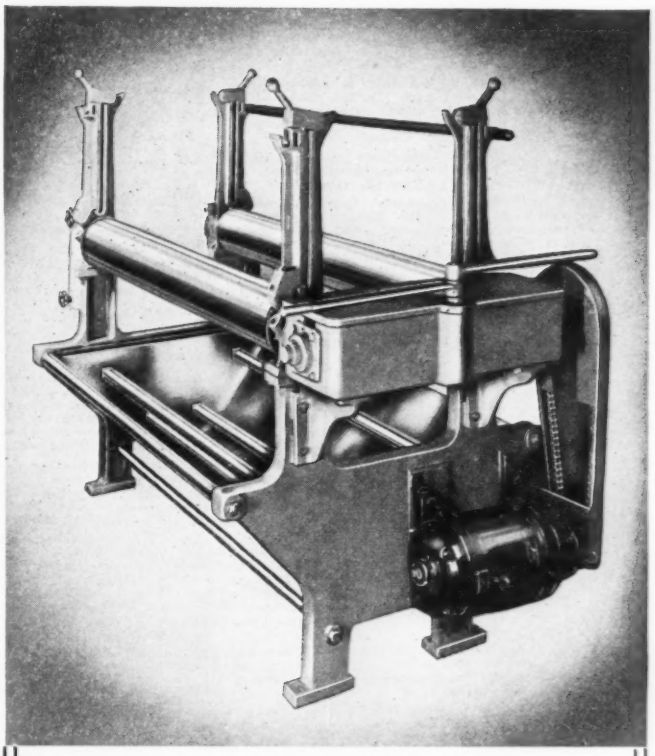

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Continued from Page 120

325. Protection for Your Humidifier Motors—literature describing the Walker fusedron which completely eliminates rewinding your humidifier motors. Walker Electrical Co., Atlanta, Ga.

326. A Payroll Method that is Saving Time and Money for a prominent Textile Mill—Illustrated folder complete with actual records describing the Ditto payroll method installed for a prominent textile mill. Ditto, Inc., Chicago, Ill.

327. Sanforizing Machinery—Illustrated booklet describing the sanforizing machinery offered by the Textile Finishing Machinery Co., Providence, R. I.

328. SKF Ball and Roller Bearing Transmission Appliances—84 pages, 100 illustrations, descriptions and dimensions of universal, unit, split and roller bearing pillow blocks, ball bearing drop and post hangers, take-up boxes. Suggestions and dimensional and load data for bearings also given. SKF Industries, Inc., Philadelphia, Pa.

329. SKF Engineering Data Sheets—84 page illustrated catalog giving both inch and metric dimensions of more than 3000 SKF ball and roller bearing types and sizes; conversion tables, installation and maintenance helps. SKF Industries, Inc., Philadelphia, Pa.

330. Tools for the Textile Trade—a twelve-page booklet illustrating and describing specially selected tools for all textile mill departments—Loom Fixers, Spinning Room Fixers, etc. Snap-On Tools Corporation, Kenosha, Wisc.

331. Unbrako Self-Locking Hollow Set Screw—Bulletin Form 532 includes illustrations and descriptive matter of this latest improvement in socket set screws. This bulletin also features the complete line of "Unbrako" Socket Screws. Standard Pressed Steel Co., Jenkintown, Pa.

332. Hard Maple Flooring—an 8½ x 11-inch folder featuring a close-up of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for the convenience of architects, builders and others when considering flooring grade requirements. Maple Flooring Mfrs. Assn., 332 South Michigan Ave., Chicago, Ill.

333. Fafnir Ball Bearings for the Textile Industry—Outlining the applications and advantages of ball bearings on textile machinery. Fafnir Bearing Co., New Britain, Conn.

334. Precision Winding for Silk and Rayon Yarns—Describes the new No. 50 Leesona Winder and all attachments that are used for silk hosiery threads and rayon yarns. Universal Winding Co., P. O. Box 1605, Providence, R. I.

335. Casters and Wheels—192 pages, describing casters and wheels suitable for all types of industrial application. Every mechanical engineer and purchasing agent should have this. Darnell Corp., Ltd., P. O. Box 4027-N, Station B, Long Beach, Calif.

336. Consistency Changes in Starch Pastes—A new and improved consistometer and technic for the study of the pasting phenomena of starches. Charts give the consistency record of pastes of tapioca flour, corn, potato and wheat starches. Stein, Hall & Co., Inc., New York City.

337. Sizing and Finishing—A pamphlet which will give the mill man an understanding of starch properties which will lead to greater efficiency in sizing and finishing. Stein, Hall & Co., Inc., New York City.

338. Thickening Materials for Textile Printing—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine. Stein, Hall & Co., Inc., New York City.

339. Diehl Textile Motors—a 12-page booklet illustrating various types of installations on textile machinery and equipment and describing the different types of Diehl Motors, as well as Diehl Grinders and Fans. Address Textile Dept., P. N. Thorpe & Co., 267- 5th Ave., New York City.

340. Notes on Cotton Warp Sizing—a 45-page handbook giving valuable data on the purposes and properties of various sizing products, their uses and preparation, with much information on the operation of slashing equipment. Will help solve many sizing problems. Address The Hart Products Corp., 1440 Broadway, New York City.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc. Saco-Lowell Shop, 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

38. Sleaziness in Full Fashioned Knitting—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading Pa. (This company also issues parts catalog for Reading full fashioned machines with general information on subject of full-fashioned knitting.)

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts, showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. SKF in the Cotton Mills—24 page bulletin describing bearing installations for practically every machine in the textile industry including roller bearing spindle and tension pulley. SKF Industries, Inc., Philadelphia, Pa.

65. Bulletin No. 500. Cooper-Hewitt Industrial Illumination—booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Electric Vapor Lamp Co., Hoboken, N. J.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

110. 3-in-One Oil for Industrial Uses—showing the many industrial uses and advantages of this oil. A. S. Boyle Co., 1934 Dana St., Cincinnati, Ohio.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Roller Bearing Co., P. O. Box 476, Newark, N. J.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

128. Houghton's Hand Book for the Hosiery Dyer—This book contains the result of 69 years of experience in research and development of processing materials for the textile industries, together with a wealth of other data useful to every hosiery dyer. E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

139. Textile Detergents—Theory of the use of alkalis and control of pH—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergent in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

141. V-Belt Engineering Data Book—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. Manhattan Rubber Manufacturing Div. of Raybestos-Manhattan, Inc., Passaic, N. J.

152. Plant Check-up List—Crane Co., 836 South Michigan Ave., Chicago, Ill.

154. Johnson Bronze Bulletin No. 340—showing over 600 sizes Johnson general purpose bronze bushings. Johnson Bronze Co., New Castle, Pa.

155. Link-Belt Catalog 1574 on the P. I. V. Gear—giving details of this positive variable speed control. Link-Belt Co., 307 N. Michigan Ave., Chicago, Illinois.

156. Link-Belt Engineering Data Book No. 125—showing features and giving engineering data on Link-Belt silent chain drive. Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.

157. Grading Rules and Complete Specifications for Laying and Finishing Maple Floors—Maple Flooring Manufacturers' Association, 1794 McCormick Bldg., Chicago, Ill.

163. Roto-Koner—Bulletin describing the new No. 44 Universal Winder, known as the Roto-Koner for winding knitting yarns, which has many new and distinctive features. Universal Winding Company, P. O. Box 1605. Providence, R. I.

164. Johnson Rotary Pressure Joints—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. The Johnson Corp., Three Rivers, Mich.

168. The Tube-Tex for Tubular Knit Goods—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

170. Gates Textile Accessories—showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions. The Gates Rubber Company, Denver, Colo.

171. Design of V-Belt Drives—48 page booklet full of valuable tables and data showing the type, number and design of V-belts that will give the greatest efficiency on each particular drive. The Gates Rubber Company, Denver, Colorado.

176. Sonoco Products—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc. Sonoco Products Co., Hartsville, S. C.

184. Speed Control Handbook T-35—new reference book in variable speed control, said to be the most complete and helpful book on this subject ever published. 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic. Reeves Pulley Co., Columbus, Ind.

185. Dulux—The White Finish That Stays White—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays whiter, stays cleaner and stands repeated washings. E. I. du Pont de Nemours & Co., Finishes Division, Wilmington, Del.

187. The Wildman Single-Head Full-Fashioned Hosiery Machine—Literature on request from the Wildman Mfg. Co., Full Fashioned Division, Norristown, Pa.

188. Form 374—This form enables you to gather your own cost data on your sewing machines and determine whether new Union Special Machines will show big savings. Furnished free by Union Special Machine Co., 400 No. Franklin St., Chicago, Ill.

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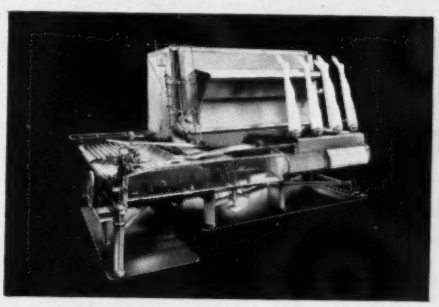
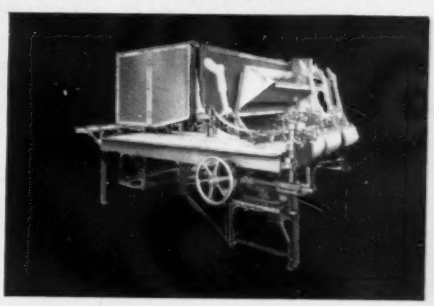


Left—Proctor Automatic Machine for Women's Stockings.

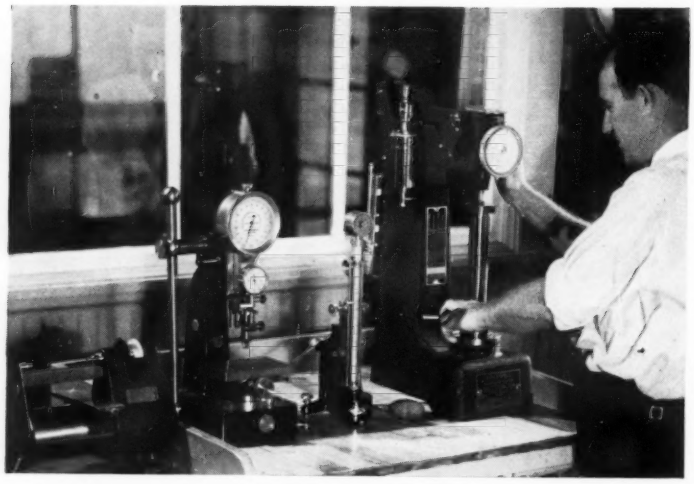
●

Right — Proctor Automatic Machine for Men's Half Hose.



Proctor & Schwartz BOARDING MACHINES

MACHINES THAT SAY "OK" ONLY TO PERFECTION



Scott & Williams uses the most sensitively accurate instruments available for testing the dimensions, accuracy, quality, and all-'round dependability of S & W knitting machine parts.

How hard is an S & W part? The dialed instruments at the right and left determine the hardness by the pressure required to penetrate the metal with a diamond. The slim device in the center records the hardness by measuring the height of the rebound of a diamond-pointed hammer.

When does a gear meet S & W standards? Only when, if placed in the device shown in center photo, it does not cause the needle in the dial to fluctuate. S & W gears must be accurate to 1/2 of one thousandth of an inch. Knitting machine frames also must be accurate in dimension to one thousandth of an inch as recorded on the instrument shown in bottom photo.

These are but a few of the tests that help to make S & W knitting machines the standard of efficiency throughout the knitting world.

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40 WORTH STREET, NEW YORK, N. Y.

"This Is The Scott & Williams Machine Age"

KNITTING SECTION

The 34th Knitting Arts Exhibition

KNITTING WEEK scored again! Monday through Friday, April 17 to 22 inclusive, Philadelphia became the Mecca of knitting interests of the entire industry, with the 34th annual Knitting Arts Exhibition as the main center of attraction; supplemented by the annual conventions of its sponsors, the National Association of Hosiery Manufacturers and the Underwear Institute—two of the ablest-operated trade associations in the country.

The Knitting Arts Exhibition, which is treated in detail in an appended report, was as usual a success, breaking records in attendance of mill men and in number and variety of exhibits. As usual, also, Exhibition Manager Albert C. Rau and his staff furnished a convenient, comfortable and efficient setting for the show, and the individual exhibitors measured up to the high standard of attractiveness and arrangement resulting from the excellence of the show's direction.

This annual display of wares by most of the leading manufacturers of equipment, supplies and services for the knitting industry is an established function of the industry, which draws full attendance from all divisions and geographical areas of the industry and thus provides a forum and arena for mutual profit to the mills and their suppliers. Current during the week were reports of efforts to change the show to a bi-ennial affair instead of its continuing as an annual event. In addition to informal discussion pro and con, the matter was officially discussed in a frank, open manner with the directors of the hosiery association, who set the rumors at rest for the present at least, with an announcement that the board,

". . . after careful and extended consideration of the suggestion that the Knitting Arts Exhibition be held bi-ennially instead of annually, came to the unanimous conclusion that the interests of the suppliers to the industry who are the exhibitors at the Knitting Arts Exhibition, as well as the interests of the manufacturers of knit goods, would be best served by a continuance of the long-established policy of holding the Exhibition annually in Philadelphia."

This announcement referred indirectly to rumors during show week of efforts to enlist the support of the Association in establishing a knitting show in the South in 1940. Specifying its intention to continue the Knitting Arts Exhibition in Philadelphia annually, the board implied its feeling that this exposition would suffice. While no official endorsement of a southern show, or disapproval of the idea, was indicated, censensus of opinion seemed to be that the thought is well worth discussion and that in the future, such a southern show could be properly and profitably staged.

Left, Earl Constantine, president of the National Association of Hosiery Manufacturers; Right, Roy A. Cheney, formerly managing director of the Underwear Institute, who was recently elected president . . . . .

As for the past several years, the annual convention of the National Association of Hosiery Manufacturers was held on Wednesday of Show Week, April 19; and in the convenient convention hall adjacent to the exposition. This convenience, coupled with the opportunity presented by the convention for a condensed view of industry activities past and future, drew an excellent and representative attendance. The meeting was opened by Austin H. Carr, president of Durham (N. C.) Hosiery Mills, chairman of the association's board, and was directed by Earl Constantine, president of the association. In the annual election of officers by the board of directors, Messrs. Carr and Constantine were re-elected to their respective positions. R. O. Huffman, president, Huffman Hosiery Mills, Morganton, N. C., vice-chairman, and Reuben C. Ball, secretary, were also re-elected. John Bromley, Quaker Hosiery Co., Philadelphia, Pa., was made vice-chairman, succeeding Roy E. Tilles, of Gotham Silk Hosiery Co., New York City; and Marshall V. Moss, of No-Mend Hosiery, Inc., Philadelphia, was made treasurer, succeeding Ernest Blood, who retired after 18 years of service. Mr. Blood was presented with a beautiful silver server, suitably inscribed, upon his retirement at this meeting.

The following were named to the board of directors for three-year terms:

John M. Berry, Rome Hosiery Mills, Rome, Ga.; D. K. Chalmers, Holeproof Hosiery Co., Milwaukee, Wis.; Charles Chipman, Rosedale Knitting Mills, Reading, Pa.; Hugo Hemmerich, Berkshire Knitting Mills, Reading, Pa.; Irving K. Hessberg, Van Raalte Co., New York City; and Nathaniel Judson, Mock, Judson, Voehringer Co., New York City.

The program of the one-session meeting was stream-lined, the features being the annual report of President Constantine, and a specially detailed report of the association's research committee, which several years ago superseded its raw silk committee. Mr. Constantine, explaining that the now established annual Hosiery Industry Conference earlier in the year provides the working ground for detailed work of the organization, devoted his remarks to a brief resume of association activity during the last fiscal year, and indications of what lies immediately ahead for the industry, especially along legislative and political lines in connection with wage-hour law problems, etc. He dealt with wage-and-hour legislation, declaring the industry committee's recommendation for a 32½-cent minimum for seamless and a 40-cent minimum for full-fashioned, to be effective July 1, to be sound and supported by the economic conditions of the industry.

Trade practice rules, the Hosiery

Industry Conference, the evils of third-shift operation, the association's merchandising division, government homestead plants, statistics, the association's technical activities, and hosiery labor problems were among the other topics covered by Mr. Constantine.

The report of the research committee, made for the committee by H. V. W. Scott, manager of Van Raalte Co., reviewed the activities of this division in detail since its formation in 1932 as the raw silk committee. It told of its success, the first year, in getting the 9-meter seriplane test adopted as an alternative method; in 1933, its work on standardized methods of testing raw silk, and work on the importance of cleanness and neatness when 3-carrier knitting came in; the major 1934 activity, the development of "Hosiery Fabric Defect Standards" for classifying and reporting fabric defects; the development of new "Raw Silk Color Standards" with three enamel plaques in white, ivory and cream to present skein colors in desirable form. In 1935, direct contact was established by the committee with the Japanese raw silk producers, and subsequently both groups have worked closely together on common problems, mainly intercomparison tests on raw silk, with such helpful progress that a current project is a second intercomparison, known as the Intercomparison of 1938-1939, the objects of which are:

1. To study the methods of raw silk testing and the standards used in the Japanese and American markets. 2. To attempt to correlate the results of various raw silk tests with the quality of knit hosiery fabric so that methods of test could be developed which would accurately predict the fabric results to be obtained from a given lot of raw silk. 3. To improve upon, and develop more satisfactory methods of knit fabric analysis. 4. To correct errors made in the original Intercomparison of 1935-1936, and to carry out various suggestions and recommendations made by both groups as a result of this work. And 5. To attempt to reconcile differences in classification between the raw markets so that a truly international classification could be adopted.

Underwear Institute Re-Elects All Officers

As was true with the hosiery meetingon Wednesday, the annual convention of the Underwear Institute, for the past several years cosponsor of the Knitting Arts Exhibition, on Thursday morning, April 20, made that day the chief focal point of interest to underwear manufacturers. All officers of the association were re-elected at this meeting, including:

Ralph M. Jones, Utica Knitting Company, Utica, N. Y. (formerly president), chairman of the executive committee; Roy A. Cheney, 2 Park Avenue, New York City, (formerly managing director), president; Grover C. Good, Globe Knitting Works, Minneapolis, Minn., first vice-president; Walter W. Moyer, Moyer Underwear Co., Ephrata, Pa., second vice-president; and Oscar W. Gridley, Utica Knitting Co., treasurer.

President Cheney presided, reviewing in his own report at the morning session the activities and affairs of the Institute and the industry. He expressed the belief that the Fair Labor Standards Act of 1938 is constitutional, and advised against action to determine this. Broadly, he feels the legislation will produce wholesome results, requiring improvement in product and plant efficiency to offset the increased labor costs.

Earl West, assistant treasurer of the Institute, made its financial report, also discussing the Federal Trade Commission and Congressional committee hearings on marking of virgin and re-worked wool, and described some of the pending marking bills.

A plea to manufacturers that they file their data for the Census of Manufacturers for 1940 as soon as possible was made by T. J. Fitzgerald, of the Bureau of Census, another morning speaker at the Institute meeting.

E. J. McMillan, president, Standard Knitting Mills, Knoxville, Tenn., spoke to his fellow manufacturers on the Wagner Act and the proposed amendments affecting it and its administration, and on the position of the underwear industry in relation to the Fair Labor Standards Act of 1938. As to the National Labor Relations Act and the National Labor Relations Board, and any desired amendments, he urged manufacturers individually to express their views to their congressional representatives and to urge their neighbors at home to do likewise, declaring these personal appeals much more effective than presentations of organizations such as the Institute.

A committee from the underwear industry to work with laundry associations on the subject of shrinkage of knit underwear in laundering was urged by E. L. Olrich, of Munsingwear, who discussed the threat of shrinkage to underwear sales.

T. O. Moore, of Winston-Salem, N. C., general counsel of P. H. Hanes Knitting Company, was the final morning speaker, discussing the Fair Labor Standards Act of 1938 and presenting his interpretation of its provisions.

At the Institute luncheon which concluded the convention, the speaker was A. L. Fletcher, formerly Commissioner of Labor of North Carolina, and now assistant administrator of the wage-and-hour division of the U. S. Department of Labor, in charge of co-operation and enforcement of the Fair Labor Standards Act of 1938. Major Fletcher reviewed the objectives and possibilities of the legislation, declaring it a means of raising purchasing power and of eliminating unreasonable conditions of work. As to enforcement, he stated that the administration had passed from the "teaching" stage into one of active policing of the provisions of the act, and cited the means by which this will be done. Regular inspection of plants and records by representatives of the division (he hopes to work out some arrangement whereby inspectors of the state labor departments may be used to supplement the activities of his own men in this work) is one method; others are to be based on complaints from employees and competitors. He urged manufacturers to have no reluctance in reporting apparent violations by their competitors.

What Was Seen at the 34th Annual Knitting Show in Philadelphia

The paragraphs below present a kaleidoscopic review of the equipment and supplies on actual display at the 34th Annual Knitting Arts Exhibition, with emphasis upon those booths involving operating equipment and showing materials. As is true in all exhibitions of this nature, there were many companies which maintained booths solely as reception space, without actual displays of their products. The values from such arenas of contact and discussion must in no way be minimized nor neglected. Visually, however, those booths with actual products and equipment, especially machinery of a moving nature, supply the majority of the booths. Brief reviews of these, in alphabetical order, are appended:

ABERFOYLE MANUFACTURING CO., Philadelphia, Pa. For service to visitors to show, booth was equipped with market quotation board on yarns.

ALLENTOWN BOBBIN WORKS, INC., Allentown, Pa. Complete line of the company's fiber head, bakelite, stainless steel, and aluminum bobbins. Introducing a new large package bakelite bobbin for rayon and silk.

AMERICA MAGNESIUM CORPORATION, Cleveland, Ohio. Display of magnesium beams, spools (for flat knitting), shafts, etc. Large beams heads of magnesium alloy and barrels of aluminum are lightweight. Magnesium said to be easily machinable so has wide application in textiles.

AMERICAN VITOS COMPANY, INC., New York City. Mending machine to re-knit mesh stocking to exactly same finish as originally knitted. Operated by air pulsations, generated by small electric motor. Machine not sold but rented. Makes 1,700 stitches per minute. Unit light comes with equipment.

AMERICAN SAFETY TABLE COMPANY, INC., Reading, Pa. Regular line of safety tables for the knitting industry, featuring the new sewing machine drive and electric clutch, a combination of an air-cooled motor and a clutch.

EDWARD R. AMMON, INC., Reading, Pa. Inspecting machines equipped with mirrows so operative may see both sides of stocking, front and back, at glance. Has automatic device for turning stockings after inspected on face side. Now equipped with tape separator said to increase production because complete information regarding defects is passed on for correction without inspector wasting time to write tickets.

JOSEPH AMON, Rahway, N. J. Exhibit of emulsion trough for full-fashioned hosiery machines. Trough designed to facilitate cleaning. Comes in various sizes.

ATKINSON, HASERICK & COMPANY, Boston, Mass. Two machines operating. The Hacoba full automatic filling winder for broad looms and the quill winder for narrow looms. May be used on cotton rayon, worsted and woolen, said to prevent sloughing-off, builds any length bunch, has constant spindle speed. Also the Hacoba fully automatic braider bobbin winder with precision cross wind for straight braider bobbins. These machines are fully automatic, the quill being inserted and wound and doffed without manual assistance. Sample Obermaier package dyeing machine of stainless steel on display. Used in testing dye runs before running in larger machine; conditions in sample machine identical to larger machines. Especially suitable for dyeing of rayon, and used with various types of dyes.

ATWOOD MACHINE COMPANY, Stonington, Conn. Featured the UniRail twister equipped with a solid, one-piece rail, precision machined for true spindle plumbness. Top and bottom decks are exactly the same width, 10 inches between whorls. Large single idlers contact the belt on both sides of the machine, assuring constant spindle speed in combination with the precision belt tension adjustment. Also running were the 5B for utility and versatility and offering a wide range of combinations of ring size and type, feed, speed and traverse; the modern twister capable of handling any size or weight of yarn package up to two pounds of yarn; and the Stonington winder, oilless from end to end, compact, and smooth running at top speeds.

BRADLEY WASHFOUNTAIN CO., Milwaukee, Wis. In operation at show were several types of washfountains and drinking fountains. Washfountains suitable for 10 persons to use at the time, built circular with foot pedal to start shower, which is automatically shut off when foot pressure removed. Available in semi-circular type also for wall installation.

H. BRINTON COMPANY, Philadelphia, Pa. 24-inch 16 feed, 10 cut, rib body machine, style "PR-19-D", for making plain and fancy rib fabrics, used primarily in the manufacture of bathing suits, also fabrics for all types of sweaters, dress goods, etc. 24-inch 32 feed, 18 cut, automatic sinker top striper, style "US-2". This produces various types of plain or fancy jersey fabrics, as well as stripes used extensively in the manufacture of striped goods very popular at the present time, such as polo shirts, basque sweaters, etc. 12-inch 32 feed, 18 cut, plain sinker top. This will produce plain jersey fabrics, either in solid color or stripes, used mostly for the manufacture of boys' sport shirts. 24-inch 16 feed, 14 cut, wrap machine. Will make jersey fabrics with both horizontal and vertical stripes, which will give various combinations of plaid effects and large block designs. This fabric is used mostly for sportswear. 18-inch 24 feed, 28 cut, loop machine. This makes a very high grade of imitation chenille, in designs or plain allover, used mostly to manufacture housecoats, beach wear, etc. 5½-inch 4 feed, automatic ribber, style "FL-2", with simultaneous change to single feed, for making self-supporting rib tops for men's half hose, children's stockings, and misses' anklets, with inserted lastex yarn every fourth course. 4½-inch single feed, automatic ribber, style "RW", for making finished welt tops for crew socks.

BRUGGER WINDING COMPANY, Philadelphia, Pa. Featuring the expanding swift for various types of yarns, giving a light, exact and self-centered running swift. Running machine in booth was spindleless high speed winder.

H. W. BUTTERWORTH & SONS, INC., Philadelphia, Pa. Running at show new high speed Tube-Tex machine for steaming and finishing tubular knitted fabrics, which keeps straight stripes and pattern designs. Fabrics finished in one operation with uniform width from end to end; hand pulling eliminated. Equipped with variable speed drive. Machine patents controlled by Tubular Textile Machinery Corporation, New York City. New dyeing machines, the streamlined padder with micrometer pressure adjustment; can be operated as unit by addition of friction let-off and winder, or in range with other machines. Also, stainless steel vertical spindle package dyeing machine with low liquor ratio. One piece spindle. Available in from 80 to 400 package size. Stokes-Butterworth fiber cutter cuts staple any desired length from 1/16-inch to 8 inches; for use on any fiber. Operates at high speed.

CHARLES COOPER COMPANY, INC., Bennington, Vt. Latch needles and spring beard needles for various types of knitting machines; samples of plain and fancy fabrics as made on circular rib spring needle knitting machine for making underwear.

CIDEGA MACHINE SHOP, INC., New York City. Operating the warp knitting loom for making curtains, bedspreads, tablecloths, casket covers, wash cloths, upholstery, etc. Made for a seamless finished product up to 72 inches wide. Speed up to 110 r.p.m. producing about 104 yards of fabric per 8 hours. Has automatic stop motion. Uses variety of yarns.

CLOVERLEAF MANUFACTURING COMPANY, Honesdale, Pa. Display of full line of textile bobbins. Company celebrating 40th Anniversary and had on hand bobbins in use for over 35 years, showing unique construction and size of nearly four decades ago and today; emphasis placed on use of large package today. Machines at show running with company's bobbins.

COLEMAN & COMPANY, New York City. Booth contained an interesting survey on factoring, showing the needs of the industry in this important function and how the trade is adopting factoring and its service.

Left, Austin H. Carr, president, Durham (N. C.) Hosiery Mills, chairman of the board of the National Association of Hosiery Manufacturers; Right, R. O. Huffman, president, Huffman Hosiery Mills, Morganton, N. C., vice-chairman of the Association; both men were re-elected to their respective positions at the annual meeting . .

CONTINENTAL-DIAMOND FIBRE CO., Newark, Del. Exhibit of line of fiber gears, boxes, textile supplies, Dilecto parts, spools, bobbins, cans, and trucks for serving the textile industry. Also Vulcoid and Micabond sheets, rods, tubes, and specialties.

THE CRAWFORD MANUFACTURING COMPANY, INC., New Brunswick, N. J. Exhibit of electric stop motions for greater speed, economy, and efficiency. Said to protect the yarn from cone to needle; stops the machine for loose ends, slubs, knots, catches, and breaks at needle or near it; provides easy adjustment for different weights of yarn.

CROCKER-WHEELER ELECTRIC MANUFACTURING CO., Ampere, N. J. Display of polyspeed motors as used by the textile industry. These motors are said to be capable of efficient and stable speed regulation over a wide range.

DAVISON PUBLISHING COMPANY, Ridgewood, N. J. Showing line of textile directories covering all phases of textile industry, such as *Knit Goods Trade*, *Blue Book*, *Rayon & Silk Industry*, *Textile Catalog and Buyers Guide*, *Mattress Directory*, and *Duck Trade*.

DIEHL MANUFACTURING COMPANY, Elizabethport, N. J. Booth in conjunction with Singer sewing machines. All machines equipped with Diehl motors.

DIXIE MERCERIZING COMPANY, Chattanooga, Tenn. Quotation board in booth for yarn and materials as a service to visitors to show.

JOHN A. EBERLY, Reading, Pa. Exhibit of line of needles, scissors, shears, tweezers, tools, magnifying glasses, sinkers, dividers, etc., as used by the knitting industry.

FIDELITY MACHINE COMPANY, Philadelphia, Pa. Several running machines. Machine to cover 1500 feet of wire per minute with knitted cover, replacing the company's former machine which braided the cover at 150 feet per minute. Machine uses original package without rewinding of cotton. Machine demonstrated use of company's knotter, showing application to various machines, also, was operating S & W Model RI machine with knot tyer and yarn changer for removing long ends on inside of hose. Two children's rib top machines running equipped with knotter yarn changer, one with rubber tied in and one with rubber laid in. Two other machines had rubber laid in every fourth feed for the Model HH machine product.

FILATEX CORPORATION, New York City. Featuring newly developed covered latex yarn for manufacture of all elastic garments. Yarn embodies features of lightness of weight, softness of texture, exceptional elasticity, strength, and is said to be immune to injury by washing, ironing and cleaning.

J. A. FIRSCHING & SON, Utica, N. Y. In operation the multiple collarette cutting and winding machine, which cuts two or more strips at one time, doubling and sometimes tripling the production.

FLETCHER WORKS, INC., Philadelphia, Pa. All machines except extractor running. The Apex twister with oilwell spindles, unit control, easy adjustment of spindle swings, individual spindle swing supports mounted on solid steel rails and low overall height in the double deck model. The Duplex doubler-twister also has oilwell spindles, double feed rolls, swing rings, sensitive stop motion and individual vertical motor drive on adjustable base. Twist can be changed quickly. The extractor is equipped with S K F bearings.

J. B. FORD SALES COMPANY, Wyandotte, Mich. Showing a sample line of specialized alkalies and cleaners, kier boiling compounds, kier assists, degumming agents, and desizing agents for rayon and acetate piece goods; leveling agents for direct dyestuffs. Especially featured was a new compound for water conditioning.

FOSTER MACHINE COMPANY, Westfield, Mass. Running at show the Model 75 winder for winding silk, rayon and cotton yarns to cones and tubes. Motive power is applied direct to the winding spindle by electric motor or belt drive through driving shaft, belts, and pulleys. Has accurate lay of yarn and minimizes contact of machine with yarn, avoiding soiling. Has gainer attachment to vary type of wind, non-wear spindle drive, ball bearings, and is of sturdy design.

GENERAL ELECTRIC VAPOR LAMP COMPANY, Hoboken, N. J. Both 100-watt Cooper-Hewitt fluorescent lamp of 5,000 lumens and the 350-watt Cooper-Hewitt mercury vapor of 6,800 lumens. A fluorescent display showed the difference in type of light given off with combination of various units such as incandescent, mercury vapor, and ultra-violet lamp.

GRAND RAPIDS TEXTILE MACHINERY COMPANY, Grand Rapids, Mich. For first time was shown the new inspecting machine which so turns the fabric that both sides are in sight of inspector and facing the inspector. The fabric runs over a lighted area, is turned behind the machine so that both the front and back may be inspected as the cloth passes. The Roto-Press showed savings in pressing athletic shirts, union suits, polo shirts, etc. This machine straightens the tubing around the neck and armholes on athletic shirts.

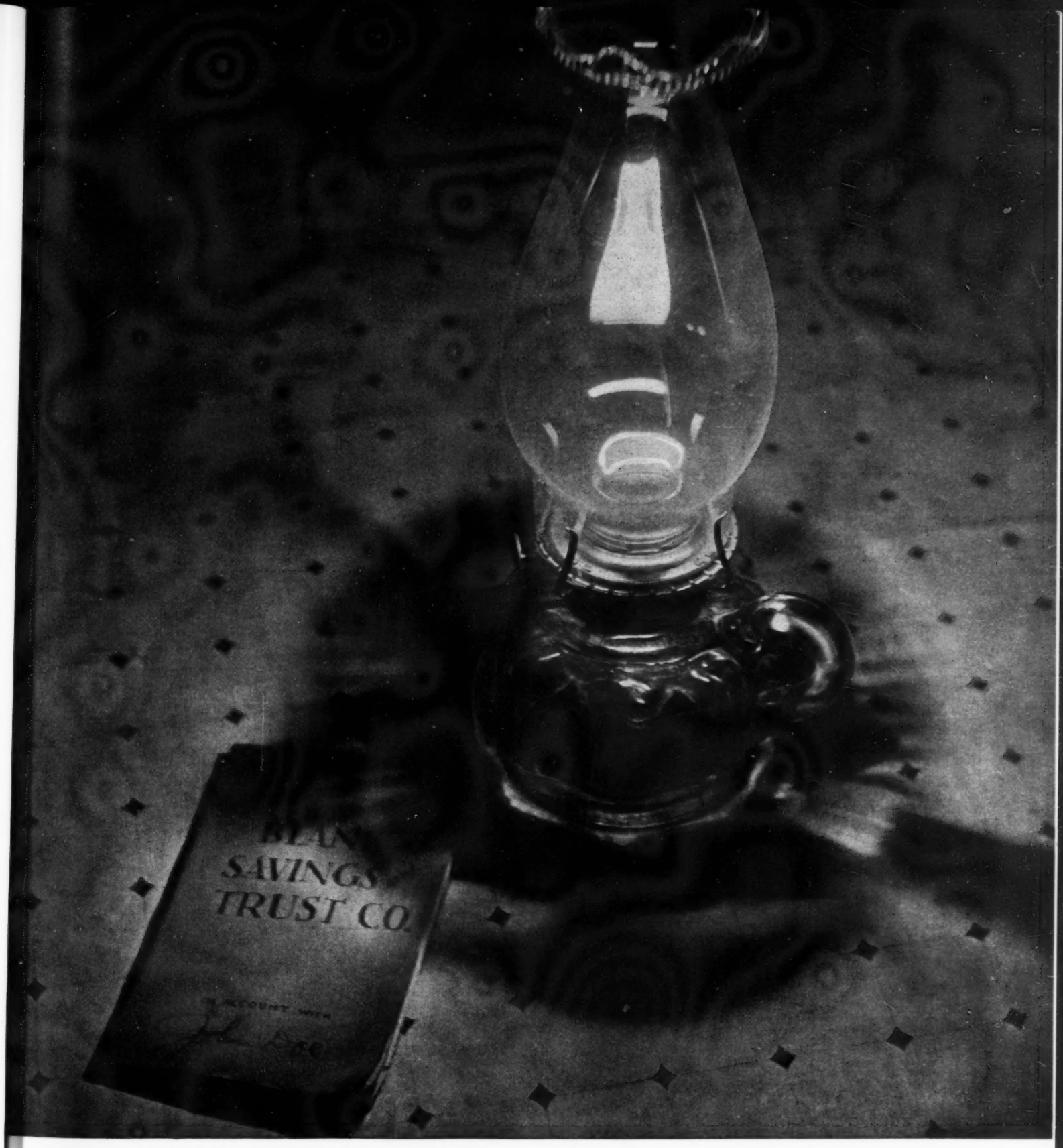
GULF OIL CORPORATION, Pittsburgh, Pa. Operating two spindles connected to oscillograph to show comparative vibration in balanced and unbalanced spindle and to show value of proper lubrication and application.

HEMPHILL COMPANY, Pawtucket, R. I. Eight running machines, with seven equipped to give newest feature of Banner-Lastic top. One machine showed Banner automatic split foot with true rib top. In conjunction with the new elastic top feature, an innovation was new type of web take-up with device for breaking the thread for making all machines completely automatic when using the Banner-Lastic top feature. Half-hose given to visitors to show new elastic top, in which the elastic yarn forms an actual stitch in the base fabric; has two-way stretch. The new device can be applied to plain, split-foot and fancy Banner machines for men's, boys', infants' and children's hosiery. Attachment provides auxiliary yarn feed station through which elastic yarn is introduced and knit independently of knitting being done at regular feed station.

As the race for profits in the making of full-fashioned silk stockings becomes more and more a race for *technical superiority*, the demand for "T M W" Needles (and the service back of "T M W" Needles) shows a strong and steady increase.

"T M W" NEEDLES

TEXTILE MACHINE WORKS, READING, PENNSYLVANIA



"What is saved affords no indication of what is lost"
LORD LYTTON

In a 40-hour week the new READING high-production twenty-six section forty-five gauge full-fashioned knitting machine produces 97 per cent more volume and 116 per cent more value than the ordinary eighteen-section forty-two gauge machine.

TEXTILE MACHINE WORKS • READING, PA.

JOHN W. HEPWORTH & CO., INC., Philadelphia, Pa. Two loopers in operation, one for looping hosiery and another for sweater fabric.

HOSIERY PATENTS, INC., Lansdale, Pa. Showing the Flexy carrier, a spring tube carrier for full-fashioned knitting machines, said not to damage the sinker, has less needle breakage, and increases the life of the tubes.

THE INDUSTRIAL DRYER CORPORATION, Stamford, Conn. On display the "H-W" conditioner for setting twist so that yarn does not kink. Handles silk, rayon, woolen yarns on spools, bobbins, shafts, cones, tubes, cops or quills. Machine operates by maintaining desired temperature and humidity within. Available with equipment are steaming trucks designed to give maximum capacity with light and durable weight.

INTERNATIONAL BUSINESS MACHINES CORPORATION, TIME RECORDING DIVISION, New York City. Featured automatic single-operation, one-hand, one-second time recorder insuring accurate and proper accounting for all overtime and tardiness. Variations from established work hours are printed in red ink. Eliminates standing in line of operatives because of quick operation of recorder. Also, all-electric writing machines with feather touch for economy and speed. Keys depressed only ¼-inch, has electric carriage return. Also, Ticketograph, which at single operation imprints sectional work tickets with all data pertaining to control of production and to the cost of each step of manufacture, from raw material to finished product. Requires only few seconds to prepare complete section work ticket regardless of number of operations, requires checking of only one office record, covers every possible schedule user will need through flexible type arrangement. Punch-card machine for electric bookkeeping and accounting machines. Electric card-operated sorting machine classifies all punched cards automatically for various reports and references. For use in such cases as efficiency reports, payrolls, distribution of direct and indirect labor costs, production order costs, scrap analyses, etc.

INTERNATIONAL NICKEL COMPANY, New York City. Display of Monel covered rayon warp slasher roll, rotary hosiery dyeing machine, 50 gallon Monel steam jacket dye kettle used for small batches, extractor, Monel skein reels, Monel moistening troughs for full-fashioned knitting machines, and regular line of utensils, all fabricated with the Monel corrosion resistant metal.

JACQUARD KNITTING MACHINE COMPANY, Philadelphia, Pa. Operating at show. Warp knitting machine for making ladies' underwear, speed from 350 to 400 r.p.m. Built by Whitin Machine Works, Whitinsville, Mass. It has the balanced micrometer feed which measures the exact amount of yarn necessary for each stitch. The pattern change mechanism is quite simple to operate and has infinite pattern possibilities. Yarn being fed from warp section beams, the machine will operate on one-, two-, and three-bar fabrics. This is said to be the first American-built high speed tricot machine.

KAUMAGRAPH COMPANY, New York City. Attractive display on revolving turrent of lithographic branded labels for boxes. In operation the Textile Machine Works' "Prestomark" machine for labeling with Kaumagraph transfers. Machine increases production of operative; has unlimited possibilities in textile industry for branding products, etc. Display of fabrics using methods of identification. Demonstration of dry transfer operation using iron with rheostat to prevent overheating. Samples of transfers available in any one or two colors, any size, for use on all types of fabrics; also embossed seals for manually attaching to fabric.

A. KIMBALL COMPANY, New York City. Machine for placing tickets on goods for identification purposes; also other types of identification machines; all types of tickets used by knitting industry and made by the company.

W. T. LANE & BROS., INC., Poughkeepsie, N. Y. Showed several types of canvas baskets and trucks used by seamers, loopers, and the dyehouse operatives. Entirely new is the canvas top for trucks used in handling hosiery. The truck may be used as a hamper, eliminating any damaging splinters, and the new top keeps the hose clean and stored in the truck or basket instead of bags. The ease of handling eliminates pulling the fabric and distorting the stitches.

LASTEX DIVISION, U. S. RUBBER COMPANY, New York City. Exhibit of fabrics having company's product thereon. Featured new pile fabric bathing suit with elastic knitted in.

E. LEITZ, INC., New York City. Advertising projector showing application of Kodac chrome for Leica camera, used in all kinds of textile research. Several types of microscopes. Photometer to measure glare and color of rayon. Photomicroscope combined with mirrow reflex camera so that it can be shifted from visual observation to photography quickly; also line of cameras helpful in research work.

KARL LIEBERKNECHT, INC., Reading, Pa. Exhibit of running machine showing the operation of the automatic welt device equipped with various improvements such as the auxiliary motor for raising and lowering the welt bars in and out of position. The automatic welt device is said to save time, menders, and eliminate the element of skill incidental to welt forming. Applicable to existing machines or new machines.

LOYAL T. IVES COMPANY, INC., New Brunswick, N. J. Exhibit of full line of various types of spring beard needles, jacks, sinkers, and other parts for knitting machinery.

MARKEM MACHINE COMPANY, Keene, N. H. Several machines for labeling goods. Featuring the No. 105 for marking boxes and labels and for general purpose imprinting; fitted with type-holder having type bars adjustable in two directions or with master plates having insertable variables. Also shown were KD7 box and label printer, the BP bench style printing machine, the Presto label printer, which is a hand operated model, and the Model 125 for tape and ribbon printing and rewinding, perforating and rewinding, and cut-off and stacking, as needed by user.

Left, Marshall V. Moss, No-Mend Hosiery, Inc., Philadelphia, newly-elected treasurer of the National Association of Hosiery Manufacturers, succeeding Ernest Blood, who retired after 18 years service; Right, Reuben C. Ball, secretary of the Association, re-elected at annual meeting . . . . .

MERKEL BOBBIN COMPANY, Allentown, Pa. Complete line of bobbins for knitting and throwing industries.

MERROW MACHINE COMPANY, Hartford, Conn. In operation several high speed Class A machines for seaming all types of fabric, many of which have been expanded to replace older type machines of the company. Interest was shown in the Style A-3D machine for finishing the elastic tops of the Model RI machine, one especially arranged for inserting ⅛-inch Stripolastic, producing a durable finish for this type hose. Various other machines working for trimming, overseaming, overedging, and shell stitching.

THE MILLER COMPANY, Meriden, Conn. Interesting display of various types of lighting fixtures for commercial and industrial application.

NARROW FABRIC COMPANY, Reading, Pa. Samples of fabric on display using the La-ce-lastic in underwear and the hosiery.

THE NATIONAL BUNDLE TYER COMPANY, Blissfield, Mich. Operating several types of bundle and package automatic machines for tying. Made in all models and types for general purpose tying and for special uses. Time saver and saves in string or tape as makes no waste. Also cellophane sheeter for converting rolls into sheets, built by Chas. Reitzes, Philadelphia. Has built-in cutter blade, adjustable spring clips, and end space bar.

NATIONAL VULCANIZED FIBRE COMPANY, Wilmington, Del. Exhibit of fiber manufactured by company in products of fabricator.

ONYX OIL & CHEMICAL COMPANY, Jersey City, N. J. Exhibit of samples of processing and finishing compounds, with samples of fabric finished with company's products.

PAIRPOINT CORPORATION, New Bedford, Mass. Exhibit of regular line of paper textile carriers.

PARAMOUNT TEXTILE MACHINERY COMPANY, Chicago, Ill. Showing the Paraflex changeable contour form for unusual flexibility for instantaneous style changes; the dual-heat hosiery finishing machine, which comprises 12 dual heat forms mounted with their drying surfaces parallel and closely adjacent, two steam inlet lines of different pressures for chiffon and service weight hosiery; and looper attachments such as the chain cutter, the stripper, the bell attachment to signal if stitch is missed, the adjustable arm to catch stockings when removed from the points, etc.

THE PERMUTIT COMPANY, New York City. Model shown of Spaulding precipitator, a new application of an old principle, for softening water by use of lime.

PHILADELPHIA METAL DRYING FORM COMPANY, Philadelphia, Pa. Featured two machines, rotary boarding machine for half-hose and same machine for ladies' hosiery. Available in steam or electrically heated forms and in size from 12 to 18 forms. Production said to be 80 dozen per 8-hour day on ladies' hose and 150 dozen daily on half-hose. Also showed the regular line of steam or electrically heated boarding forms. Shown was the Multi-shape form, designed so will make six different shapes and can be used for all types of hosiery by changing parts. Also was showing tissue inserting device and the placing of hosiery in envelopes automatically. Another machine operating to test wear in heel or leg of stocking.

PROCTOR & SCHWARTZ, INC., Philadelphia, Pa. Two machines operating. The automatic boarding, drying, stripping, piling and counting machines for hosiery; the two-operator Model D machine for women's hosiery and the two-operator half-hose machine for men's hosiery. Operators of machine do not move from position; the goods pass them to be placed on the forms and the machine performs the operation of boarding, stripping, piling, and counting.

QUEENS MACHINE CORPORATION, Brooklyn, N. Y. Operating the double-lock speed links machine for knitting sweaters. Said to have high production because of speed. Operates from cones. 88 inches wide, 7-gauge.

REECE BUTTON HOLE MACHINE COMPANY, Boston, Mass. Showing the adjustable fly bar and cord trim machines. Another new machine for making oval buttonholes, giving hole particularly suited for narrow borders, on display.

ROBERT-REINER, INC., Weehawken, N. J. Featuring knitting of complete stocking on one machine, said to make perfect match; the heeler inserts heel and joins in same operation. Makes a saving in waste, labor, cost and handling of merchandise. Also had high speed warper for direct warping for weaving and knitting. First showing at knitting show of the three-bar high speed Tricot machine. Runs up to 300 r.p.m. depending on material. Can be used on cotton yarn for dress goods, gloves, and outerwear. Will take several colors and make many patterns. Bathing suits handled successfully. It can be equipped with cut presser attachment to make a raised effect. The high speed Combi operates at from 75 to 80 courses per minute and is designed to provide 10 carriers per section. The needle bar, presser bar, and knocking-over bar are undivided. The "Rapid" warp loom for flat fabrics has been improved; the feed of the thread is redesigned and the rolling-up apparatus has been constructed so that the number of stitches in the fabric remains the same from the beginning to the end of the piece.

REPUBLIC STEEL CORPORATION Cleveland, Ohio. Dyebeck of stainless steel for running samples, as preliminary test for running in standard machine. Wooden dyebox (old) lined to make as new with atomic hydrogen welding of light gauge 18-8 stainless steel. Also, truck for handling of wet materials, dry cans, various textile containers, dye jig, and line of tableware, all of stainless steel. Laboratory testing unit for application of dye colors.

RESEARCH COMMITTEE OF NATIONAL ASSOCIATION OF HOSIERY MANUFACTURERS, Washington, D. C. Display of publications for methods of testing hosiery the first complete testing manual for knitters; display of standards of inspections and grading to zones and defects; grading cabinet for determining evenness and cleanness of fabric; two machines to determine the snagging point of hosiery, as gauged by micrometer setting of screw with point to prick hose.

ROCHESTER ENGINEERING & CENTRIFUGAL DIVISION OF AMERICAN LAUNDRY MACHINE COMPANY, Cincinnati, Ohio. Showed the Super rotary hosiery dyeing machine, 25-pound size, of Monel metal; also 17-inch and 40-inch extractors, also of Monel.

ROYERSFORD NEEDLE WORKS, INC., Royersford, Pa. Display of needles and accessories for various types of knitting machines.

SCHOLLER BROS., INC., Philadelphia, Pa. Introduced new hand cream for operatives to keep hands soft and smooth to prevent injury to delicate fabrics; samples of various compounds made by company; also number of fabrics showing application of various Dura Bond finishes. Enlarged photographs showed crudeness of fabric before finishing and quality after finishing.

SCOTT & WILLIAMS, INC., Laconia, N. H. Exhibit of eight running machines, four Komet types for making men's English ribs and four wrap stripe machines. First showing of Komet Links and Links 4-inch 132-needle double feed, five-feeder, plaiting, draw thread, tipped heel and toe with L-1895 rubber laying-in attachment. This machine makes a raised stitch on hose and has unlimited pattern effect. Other gauge Komets running with attachments of L-1945 chain control, L-1939 reverse welt, 2041 lap control, L-2048 double sole. Entirely new Model HH-PW-NRP, 3¾-inch, 120-needle color in color wrap; the new feature is the reverse plaiting makes automatic rubber top sock or automatic HH rib top. Other machines include automatic double butt tuck, 8-feed machine with two finger yarn change at two feeds for fancy body work. Model ES 3½-inch, 240-needle with chain striper and color-in-color attachment for making rubber slack tops automatically, to be separated by draw thread and can also be set to transfer. Finer gauge also in new Model HH-PW-NRP.

SEES & FABER COMPANY, INC., Philadelphia, Pa. Display of general line of textile mill supplies, with emphasis on full-fashioned fixers tools and knitters' supplies.

SHELL UNION OIL CORPORATION, New York City. Introduced at show the new S.U.X. oil No. 74 with high adhesion qualities to prevent creeping and drippage. Said to be 100 per cent a lubricant, containing no soaps or fillers. Will entirely remove from goods by fulling, bleaching, or boiling. Recommended for bearings, cams, top rolls and stands in cotton spinning, and places in knitting where necessary oil remains where placed. Made by new refining process. Also introduced new needle oil for knitting machines, sinkers, jacks, dividers, etc. Has high adhesion qualities but different base from foregoing oil. Also will wash out.

SINGER SEWING MACHINE COMPANY, New York City. Operating at show were many standard and special makes of sewing machines. Featured by the company were the high speed Faggoter which makes a fancy stitch for joining decorative cloth, said to be twice as fast as the former machine; seam covering machine operating at 1,000 stitches faster than older model; collarette machine for putting on both split and tubular borders and lace at 3,500 stitches per minute; a machine that makes the entire glove from the fabric; all machines equipped with Diehl motors.

SMITH, DRUM & COMPANY. Philadelphia, Pa. Featured package dyeing machine with new type of package carrier, which gives greater flow of liquor through each package at any given pressure. Has 4-rib spindle of sturdy construction. Two packages are fed through each spindle and the center manifold construction is so arranged that the diameter of the tank need be no greater than for conventional carrier design, the packages being fixed with four vertical packages. Available in several sizes and comes equipped with automatic valve, control panel, and carrier truck. Built of stainless steel. Also, skein dyeing machine recommended for application of vat, direct, sulphur, chrome, naphthol and acetate colors. Can wash with continuous flow of clean water passing through yarn to drain; yarn totally submerged yet in view of operator; steam valve can open wide during process without tangling or matting yarn; entire bath filtered each minute. Rotary dyeing machine of Monel metal with sectional compartments. Drive either belt or silent chain. Overflow placed full length of tank at rear to permit flushing of scum and dirt.

SONOCO PRODUCTS COMPANY, Hartsville, S. C. Showing of new rayon tube for weaving yarns, to be used in magazine creeling, made of specially treated paper. Also standard line of paper tubes, cones, and carriers.

SOUTHERN TEXTILE MACHINERY CO., INC., Paducah, Ky. Showing Standard Sotco model dial loopers including a 40-point machine of two-thread or single thread overlocking stitch; the Model DST looper, single thread gore or heel pocket looping, single thread in and out stitch. The Model D looper was in the 3½ point for coarse work, multiple thread in and out stitch, and cylinder looper set up to loop 200 needle work on boots and ribbed tops.

SPOOL COTTON COMPANY, New York City. Featuring Crown zippers. Zipper made with plastic material that is not affected by laundering, fresh or salt water. Available in both closed and open end. Also, metal zippers and display of Clarks' ONT thread.

STOP-MOTION DEVICES CORPORATION Brooklyn, N. Y. Exhibit of electric stop motions for use in knitting fabrics for outerwear, underwear, hosiery, elastic girdles and other knitted elastic fabrics; said to eliminate waste and damage and prevent broken needles.

SUPREME KNITTING MACHINE COMPANY, Brooklyn, N. Y. Four machines in operation. For first time was shown the jersey fabric machine with the new gravity take-up to take up the slack of yarn when the feed is out of action. The machine makes stripes on all 32 feeds. The gravity take-up also acts as an electric stop motion. Another high production machine was the 48-feed jersey striper, 18-inches. The same machine is available with 64 feed on 24-inches, or 32 feeds on 12 inches. The machines can make all three necessary sizes for underwear according to gauge of cylinder and have the garment made without seams. The fourth machine shown in this booth was the 22 cut 24-feed loop machine for making garments, ladies' negligees, pajamas, mufflers, etc.

Ernest Blood, who retired as treasurer of the National Association of Hosiery Manufacturers after 18 years service.

TEXTILE TRIMMING & BOARDING MACHINE COMPANY, Reading, Pa. Machine for electrically clipping and trimming long ends in hosiery attracted attention; suction removes clipped ends. Device also set up in conjunction with revolving table with forms for placing hosiery thereon; hosiery revolves with forms and passes by operative to be clipped with electric trimmer. The forms may also be used for inspection at same time hose are placed on for trimming.

TOMPKINS BROS. COMPANY, Syracuse, N. Y. Two running machines, the 4-color machine for making caps, scarfs, headwear, etc., has new stitch adjuster. The single-head spring needle machine with new clutch and brake mechanism has electric stop motion. Makes sweater cloth with variable pattern. Will run any fiber; at show was making double over-plaid.

THE TORRINGTON COMPANY, Torrington, Conn. Exhibition of complete line of knitting needles, jacks, sinkers, dividers, etc., for knitting trade, and display of fabrics knitted with company's products.

E. W. TWITCHELL, INC., Philadelphia, Pa. Exhibit of all types of packing used inside of the hosiery box, such as folders, inserts, etc.

UNION SPECIAL MACHINE COMPANY, Chicago, Ill. Featured the new type seaming machine using two and three-threads for the seams; the Lock-stitch for overalls and woven fabrics; and the 2-needle felling machine. A machine has been designed for the handling of the new two-way stretch elastic for hosiery tops; attracted attention at show.

UNITED ELASTIC CORP., East Hampton, Mass. Attractive display of undersea scene showing bathing suits, trunks, hose, etc., in which elastic of company is used. Running was testing machine to determine number of times elastic will stretch before rubber breaks.

U. S. GUTTA PERCHA PAINT COMPANY, Providence, R. I. Exhibit of samples of paint emphasizing Barreled Sunlight, a white interior paint combining qualities of better reflection and diffusion of light, hiding power, ease of flow when applying.

U. S. RING TRAVELER COMPANY, Providence, R. I. Exhibit of line of travelers.

U. S. TESTING COMPANY, INC., Hoboken, N. J. Projection to show enlarged study of various products of interest to knitters, such as flax, Nylon, etc. Several testing machines in operation: the Frazer test on abrasion machine for distensibility, recoverability, stretch and endurability on leg of hose; single strand tensile strength tester; tension device to measure shrinkage of knitted fabric; Flexease machine to determine knitting yarn flexibility; incline plane Serigraph to record tensile strength and tension at breaking point.

U. S. TEXTILE MACHINE COMPANY, Scranton, Pa. Running was entirely new Model UD machine for throwing. Has stop motion on take-up spool, which spool is driven under the roll instead of on top. Take-up spool also has hinges for convenience of operator. Traverse motion is constant speed. Running 10,000 r.p.m. on 100 denier rayon making a one-pound package. The doubler twister also new machine designed to produce combination yarns from silk, acetate and viscose rayon, and cotton. Runs large package, has integral combination of spindle swing and ring operating as one unit, automatic belt take-up, totally enclosed cam unit running in oil, sensitive stop motion. The single deck winder is equipped with all-metal bobbin board with baked enamel finish, cam unit same as on doubler twister, motor is geared to ball bearing mounted jack shaft. The Acme twister has automatic belt take-up, complete factory-assembled and self-lubricating cam unit and back idler unit combined with twist gear yoke to make changing easier. Has improved swing unit with four position spring adjustment so that swing tension can be regulated for any number of ounces desired. The high speed twister for hosiery was operating at 19,000 r.p.m. on silk. The spindles were cool though they were not operating in oil. Were equipped with roller and ball bearings with wick lubrication.

UNIVERSAL WINDING COMPANY, Providence, R. I. Showing three running machines. New No. 99 Electromatic, a bobbin winder involving completely new principles. Automatically removes full bobbin and starts winding on empty bobbin without manual assistance. Speed 2½ times faster than No. 90 winder. May be built in sections up to 100 spindles with 50 spindles on each side. Direction of spindles may be reversed. Machine now undergoing thorough mill tests; available to industry within several months. No. 50 Leesona winder for silk and rayon winding of uniform cones. Prepares large package, has emulsion attachment, 7-position differential pressure adjuster, and slotted thread guide. No. 44 Roto-Coner, so named because of rotating traverse; said to eliminate hard ends. Safety stop prevents damage to empty cones. Flexible enough to handle any type of spinning bobbin.

VENANGO ENGINEERING COMPANY, INC., Philadelphia, Pa. Several standard and floating rotary hosiery dyeing machines of Monel and stainless steel in 25-, 50-, 100-, and 150-pound sizes; peculiar construction said to give easier penetration. All equipped with roller bearing drive.

WACHMANS SONS, INC., Brooklyn, N. Y. Showed electric stop motions for all types of knitting machines.

WHEELER REFLECTOR COMPANY, Boston, Mass. Display of fluorescent lamps and lighting fixtures for industrial and commercial applications. Such lamps as fluorescent inspection units, individual reflector type, open-end type, etc., seen at show.

WHITIN MACHINE WORKS, Whitinsville, Mass. On display was line of Crys-steel rings and spindles of particular interest to throwing trade. Also warp knitting machine. (See Jacquard Knitting Machine Co.)

WILDMAN MANUFACTURING COMPANY. Norristown, Pa. Eight machines running, four single-unit single-head full-fashioned hosiery and four body machines. Model AB body machine a 14-inch 16-feed to use mercerized or cotton for underwear or sweaters. Replaces old machine of 8 feeds thereby getting twice production with 16 feeds, requiring only half amount of floor space. Solid butt needles in dial gives new pattern field for sweaters and snuggies. Model PB2 body

striper for making striped bathing suits. Model PBW with pattern wheels for bathing suit material, and Model FBSS body machine to run rayon for underwear and dress goods. The single-unit single-head machines knit complete stocking in a single continuous operation, built in two styles; TC knits stocking with sides of heel tabs attached to sole, and TL the sides of the heel must be attached to the sole by looping after the stocking is knitted. Machines shown of different gauges, one equipped with pattern attachment.

WILLCOX & GIBBS SEWING MACHINE COMPANY, New York City. Featured a new knee action sewing machine which puts rubber so that strain will not be on stocking, but on the elastic, when the knee is bent. Sewed in on Fastlock machine without using a chain stitch. Another type of elastic serving the same purpose is sewed inserted in the hosiery. The new Superlock for overseaming, hemming and edging is entirely new in idea and distinctive in design. Has high speed, automatic lubrication, and permits maintaining a blind hem while crossing seams or bulky sections. The cut and fold machine can be used for labels stitched on all four sides or for the hanger type, which are stitched only on the ends. Color has been carefully selected to eliminate eye fatigue. Also showed regular line of standard machines and special machines.

AS YARNS CONSTITUTE the major raw material supply of the knitting mill, the booths of yarn manufacturers—cotton, silk, wool, rayon and other synthetics—form an important segment of the exhibition, and provide a meeting ground of contact for discussion and inspection of new and established yarns and fabrics made from them. The following list gives alphabetically the exhibitors of yarns along with the names of other exhibitors not previously listed who maintained reception booths:

Adelphia Textile Company; American Bemberg Corp.; American Dyestuff Reporter; American Enka Corp.; American Viscose Corp.; American Wool & Cotton Reporter; American Yarn & Processing Co.; Arrow Needle Co.; Atlantic Rayon Corp.; Bliss, Fabyan & Co.; Boger & Crawford; Boshamer & Co.; Cannon Mills, Inc.; Caron & Patterson; China Grove Cotton Mills Co.; COTTON; Cross Cotton Mills Co.; J. D. Cunningham.

Darlington Fabrics Corp.; Dubied Machinery Co.; Duffy Silk Co.; E. I. DU Pont DE Nemours & Co.; Duplan Silk Corp.; Ewing-Thomas Corp.; Fairchild Publications; W. F. Fancourt & Co.; Morton Feldman, Inc.; Franklin Needle Co.; Franklin Process Co.; Franklin Rayon Corp.; Friedberger-Aaron Mfg. Co.; General Hosiery Motor-Mend Corp.; Globe Dye Works Co.; Grove Silk Co.; Gunze Silk Corp.

Hampton Co.; Oscar Heinemann Corp.; Hellwig Silk Dyeing Co.; Hoffner Silk Dyeing Co.; Alfred Hoffman, Inc.; Huntington Specialty Co.; Industrial Rayon Corp.; Jasper-Groz Needle Co.; Johnston Mills Co.; Jordan Mills, Inc.; W. H. & F. Jr. Jordan Mfg. Co.; Kahn & Feldman, Inc.; Knit Goods Publishing Corp.; Knit Goods Weekly; Laconia Needle Co.; R. K. Laros Silk Co.

Laurel Soap Mfg. Co.; Leatex Chemical Co.; Percy A. Legge; Wm. A. P. MacKnight; C. R. McGinnes; Malina Co., Inc.; Clarence L. Meyers & Co.; James E. Mitchell Co.; Modern Throwing Co.; L. P. Muller & Co.; North American Rayon Corp.; George B. Pfingst, Inc.; Philadelphia Drying Machinery Co.; Philadelphia Textile School; Quaker Chemical Products Corp.; Rayon Publishing Co.; Charles Reitzes; Robaczynski Machine Corp.; Rose Mills, Inc.

San-Knit-ary Textile Mills; Sauquoit Silk Mfg. Co., Inc.; Southern Knitter; Southern Mercerizing Co.; E. O. Spindler; Standard-Coosa-Thatcher Co.; H. Sweebaum; Textile Age; Textiles, Inc.; Textile Machine Works; Textile World; Throwsters Research Institute; Tubize Chatillon Corp.; Tubular Textile Machinery Corp. (see H. W. Butterworth & Sons Co.); Valdese Mfg. Co.; Van Straaten & Havey, Inc.; Victor Ring Traveler Co.; Waterman Currier & Co., Inc.; William Whitman Co.; Thomas Wolstenholme Sons & Co., Inc.

Circular Machine Cutting Holes in Fabric

THE EDITORS OF COTTON received an inquiry from a mill man requesting information on the causes of an S & W machine cutting holes on the first few short butt needles next to the long needles when the machine finishes the toe and goes onto the loose course. This question was passed to two other hosiery mill men, the first of whom replied as follows:

"I am taking into consideration that the first few short butt needles named are the ones next to the long needles, which those of us familiar with the S & W machines call the heel or backing-up side. We know that to make a loose course we have to raise our cylinder a little higher, thereby drawing a longer stitch, resulting in the loose or looper course. As a general rule this particular movement is made, on the heel and toe tension, by a drum cam which is slightly higher than the regular heel and toe cam. These cams, as we all know, vary in construction, most mills having their own method of making these cams.

"My first experience with this trouble was when we bought some machines from another mill. Heretofore our machines were equipped with factory-made cams and we experienced little trouble, but on the purchased machines we found they were equipped with home-made cams and we had considerable trouble with the holes bursting in the corner of short needles coming off the toe on the loose courses. After some study, we found that the loose course cams on the machines (cams made by the other mill) had the slope of most of the cams too straight up, causing the cylinder to bounce up just as it started on the loose course cam—thus making the cylinder travel a little higher for about three or four short needles and then drop back down on the cam. This resulted in the stitch being drawn too long in that particular place and pulling a hole.

"We also found a great number of these cams to be a little too short so that when the cylinder started off its last reciprocating move going onto the circle, the cylinder was rising as the short needles were going under the left stitch cam. This was also cutting holes.

"We found that by putting factory loose course cams on with the proper slope and adjusting them, the cylinder could rise onto the loose course before the short needles started under the stitch cam to make the first draw; this eliminated entirely the cutting of stitches on the first few short needles next to long needles when coming off toe onto the loose course.

"We have adopted this practice on all our machines and are having no trouble whatsoever, and we are obtaining an even loose course the entire round of the sock."

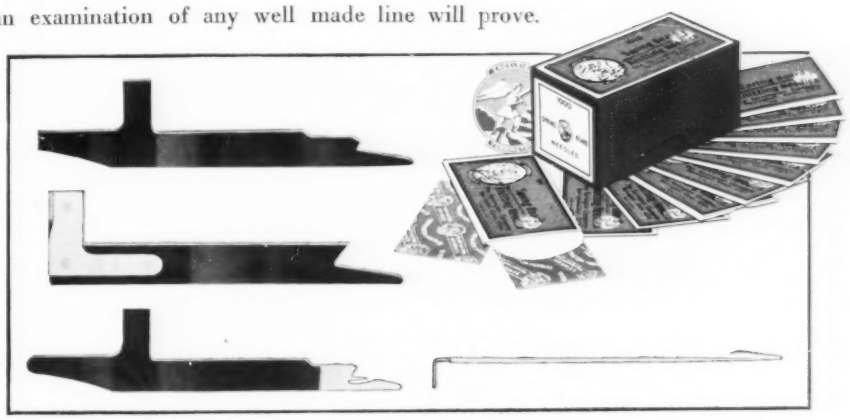
The other knitting mill man answered as follows:

"There is more than one thing that might cause a knitting machine to cut holes on the first few short butt needles next to the long needles when the machine finishes the toe and goes onto the loose course.

"If the cylinder bounces it will cause trouble of this nature. A short center cam might cause the running cam to knock the needle through the stitch. If the looper course is too loose it may cause such holes to be cut."

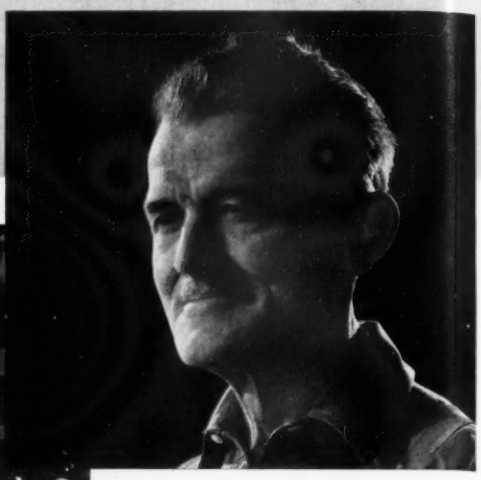
"STREAMLINED FIT". . . is a phrase used by one mill to sell its line of hosiery. "Alluring Transparency" sells a similar line for another mill. "Surprising Strength" calls attention to the products of a third. Vivid phrases, certainly, but entirely true, as an examination of any well made line will prove. You can *see* its alluring transparency, *test* its surprising strength, *measure* its streamlined fit.

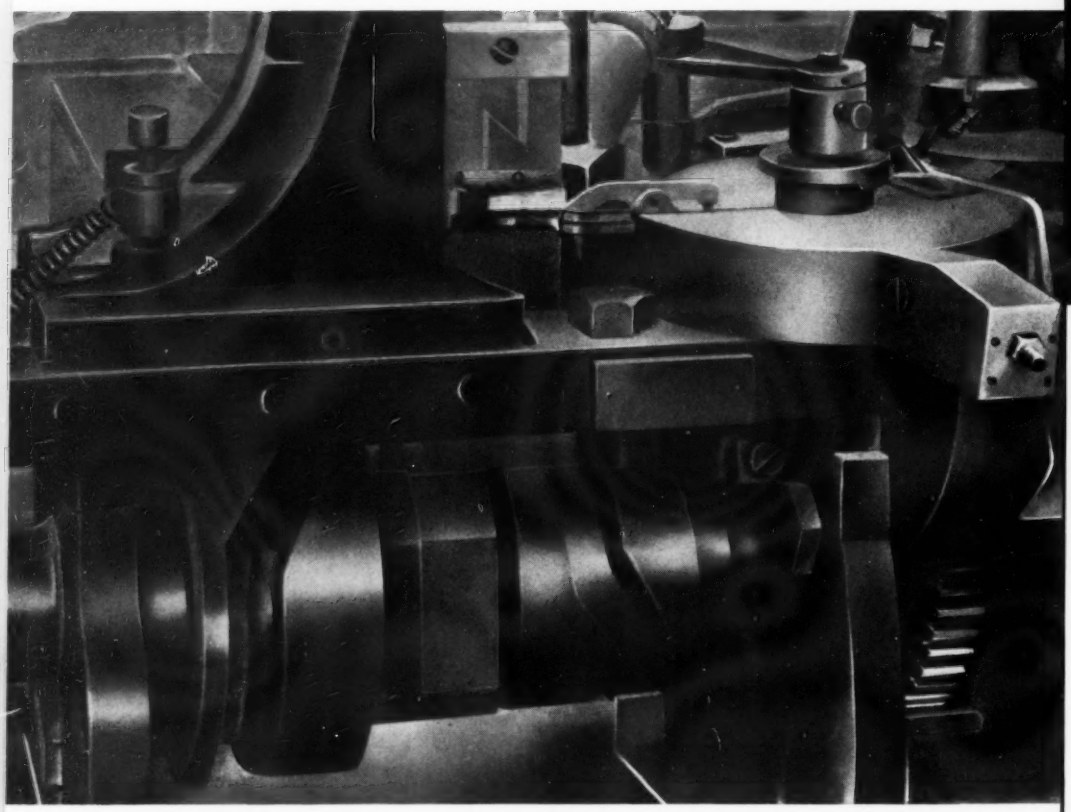
Just as it is difficult to reconcile the seemingly fragile beauty of modern hosiery with its great strength, so is it difficult to reconcile the apparent fragility of Torrington Needles with their great stamina. Yet in these machine-made needles, knitters throughout the world have found a toughness of temper and a sleekness of finish that are true helps in producing hosiery which can be described in glowing terms.



TORRINGTON ***Needles and Sinkers***

13.6% said,★ "TORRINGTONS Because They Are The BEST MADE"





"Best Made" means that Torringtons are stronger, tougher, more uniform in temper, finish and dimensions, and that their *machine-made* quality has proved a true advantage in day-by-day, year-in-and-year-out knitting.

★ **MILL MEN'S REASONS FOR PREFERRING TORRINGTON NEEDLES**

Proved Best	18.2%	High Quality	12.5%
Best Service	17.0%	Better Temper	9.0%
Best Results	15.9%	Last Longer	6.8%
Most Uniform	14.8%	Economy	2.3%
Best Made	13.6%	Smooth Finish	2.3%
Most Satisfactory	12.5%	Miscellaneous	11.4%

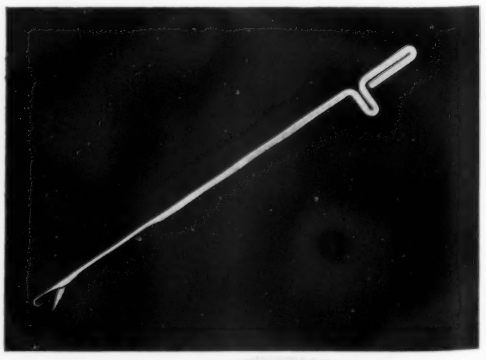
Many of the knitting mill executives surveyed gave more than one reason under the above classification for preferring Torrington Needles. As a result, the figures for the entire list total more than 100%.

NOT satisfied with the fact that our customers *are* using Torrington Needles, we recently set out to find the reasons *why* they use them. A survey conducted by an independent research organization revealed that of a representative group, 13.6% preferred Torringtons because they are the "Best Made."

"Best Made" indicates the high opinion held of Torringtons among users in every part of the country. But even more specific and convincing are some of the reasons given by the other 86.4% of those who were questioned. "Best by actual test"..."They give us the best results"..."More economical"..."Best results in machines"... are typical expressions used in replying.

Testimonials like these from the men on the front knitting line serve to re-affirm the fact that Torrington Needles are "best made" because they are *machine-made!*

Torrington research in machine methods of manufacture has produced a latch needle that is today's criterion of quality and uniformity.



THE TORRINGTON CO., TORRINGTON, CONN., U. S. A.

The Torrington Company . 1640 Fairmount Ave., Phila., Pa.
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The Torrington Company . 538 South Wells St., Chicago, Ill.
The Torrington Company . Guilford Bldg., Greensboro, N.C.
E. G. Paules . . . . . Bendix Bldg., Los Angeles, Calif.
The S. M. Supplies Co. . 210 South Street, Boston, Mass.
The Torrington Co., Ltd., 137 Wellington St. W., Toronto 2, Ont.

Factories at

Torrington, Conn. — Coventry, England
Upper Bedford, Quebec — Aachen, Germany

TORRINGTON *Latch Needles*

Effect of Live Steam on Dyebath

By Milton J. Hoffman

Chemist, The Alden Mills, New Orleans

IN PREPARING this article, it is not the intention of the writer to recommend a solution to troubles that may arise from improperly treated boiler waters or conditions under which the boilers are operated, but merely to describe an experience under such conditions with relation to the dyehouse and dyeing operations.

While our daily production covers several types of hosiery, we concentrate on the dyeing and finishing of ladies' full-fashioned hosiery. There are certain times during the year that the regular city water supply may be off standard, due to the rise and fall of the Mississippi River, with which, and its relation to the city of New Orleans, I am sure everyone is familiar. During the spring of the year this river is very much above normal height, due to its carrying to the Gulf of Mexico the flood waters of the rivers in the upper part of the United States. While this is taking place, there is likely to be a greater percentage of organic matter carried along with the water than under normal conditions.

Keeping these circumstances in mind, we will proceed with an account of a difficulty we experienced in our dyehouse during this past spring.

We use the one-bath method of degumming and dyeing in all of our operations, and were confronted with the fact that for some reason, every one of our shades which under ordinary dyehouse conditions were turned out on the first sample were now in need of several additions to bring them up to the required shade; these additions consisting mostly of the cotton and silk yellows. We found this to be a trying ordeal, and since we maintain pH control over our dyeing and finishing baths, the first thing we did was to make a check of the pH of the dyebath to determine if every operation was carried out strictly in accordance with the formula. Much to our surprise, the pH readings checked with those given in the formulas.

It was decided that the next step would be to make a thorough analysis of the water used in the dyebath. All of our water is treated by zeolite softener, and maintains a pH of 9.2, which, incidentally, is the same pH as our city supply. A complete check of the water revealed that two additional drops of soap solution were required to produce the necessary amount of foam that would indicate the proper point of softness, so we concluded that there was an excess of calcium and magnesium in the water that the softener system would not take care of. Further investigation proved that there was sufficient chemical reaction with the degumming compound in use at the time to correct this slight degree of hardness. After completing our analysis of the water with nothing alarming being brought to light, we eliminated it as a possible source of the trouble and proceeded further in search of a solution.

Next considered were the dyestuffs. Every one of the dyestuffs in use was tested separately, but the results were always the same, with no light being thrown on the source of our trouble. The matter was gone into thoroughly with the respective dyestuff manufacturers; still the condition remained.

All of the auxiliaries—sulphonated oils, salt, etc.—as used in both the dyehouse and the throwing plant were run through a routine check with no further results. In the meantime, our production took a slump and our re-dyes were at a high percentage, and we were beginning to be troubled with chafe marks due to the repeated re-dyeing of the goods.

During the course of all of this trouble, it was necessary for the writer to match several new shades, this being done in the laboratory first on a single hose at a time before proceeding to the regular dyetubs. In this work, something developed that called for further investigation. In dyeing one hose at a time in the laboratory, a salt bath is used in place of direct

steam. All of the dyeings made in the laboratory were very level, of which fact notes were kept.

But on running these new shades in the dyehouse, the same old trouble arose. In one particular instance, the formula called for 650 grains of a cotton yellow and 350 grains of a silk yellow, but before the lot could be brought up to shade, it was necessary to add an additional 1,500 grains of the cotton yellow and 900 grains of silk yellow. It was brought to my attention by one of the tub operators that the dyebath was as yellow as gold, still very little of the dyestuff was being absorbed by the fibers. Upon dropping this dyebath, another problem confronted us: On the bottom of the dyetub there was a yellow precipitate caused by the yellow dyestuff combining with some element and settling out of solution to the bottom of the tub.

There is a tub in our dyehouse set up with coils that was used during an experiment to reduce the amount of condensation that takes place where live steam is run into the tub, so we then turned our attention to a comparison made by running a lot of goods in this tub and another lot in a tub using live steam. To our satisfaction, the run made on the tub with the coils went out on the first sample, while on the other tub it was necessary to make several additions of the yellow dyestuffs.

In view of these results, considering that both lots were dyed the same shade, we saw the necessity of furthering our investigations to points other than the dyehouse. Reviewing the notes made during the laboratory dyeings, and the runs made under actual dyehouse conditions, it was decided to center our attention on the steam lines to the dyehouse, since open steam lines were run directly to the dyetubs.

With this in mind, a beaker of distilled water was placed under the steam pipe used to dissolve the dyestuffs before adding to the tubs, and after 30 minutes a slight settlement was noticed. To substantiate our findings, one of the yellows in question was selected and a dyeing made under the steam pipe and another on the salt bath, and much to our surprise, the dyeing made under the steam pipe was approximately 60 per cent lighter than the one made on the salt bath. During the course of the dyeing made under the steam pipe, the dyestuff had a tendency to settle to the bottom of the beaker. From these observations we knew the next step to take.

The conditions under which the boilers were operated were carefully noted, and from our investigations, we concluded that the trouble originated at this point.

In the analysis of the dyebath liquor, aluminum was found to be present; we traced the aluminum as being part of the boiler compound. Due to the high river stage, as explained in the beginning of this article, we found it necessary to use a suitable boiler compound to keep the boiler clean of muck and silt caused by the organic matter present in the water. The presence of aluminum in the boiler compound was verified by analysis. We next ran an analysis on the boiler water drained from the boiler, but found no aluminum.

The theory as presented to us by a consulting boiler engineer was that in operating the boiler, the boiler tender had allowed the water on his gauge to run up to 8 or 9 inches visibility on the glass, thereby indicating a full boiler. This being the case, the muck and scale present in the boiler water would be in circulation and subject to passing through the steam lines, either as wet steam, or in cases of extreme high gauge actual slugs of water. Naturally, such operations contaminated the solution in the dyetubs.

A re-check of the theoretical possibilities of this trouble was made in the laboratory, by making up an exact duplicate of the dyebath and adding 10 c.c. of a 10 per cent solution of aluminum sulphate. The results obtained were identical with those obtained during our regular dyeing operations.

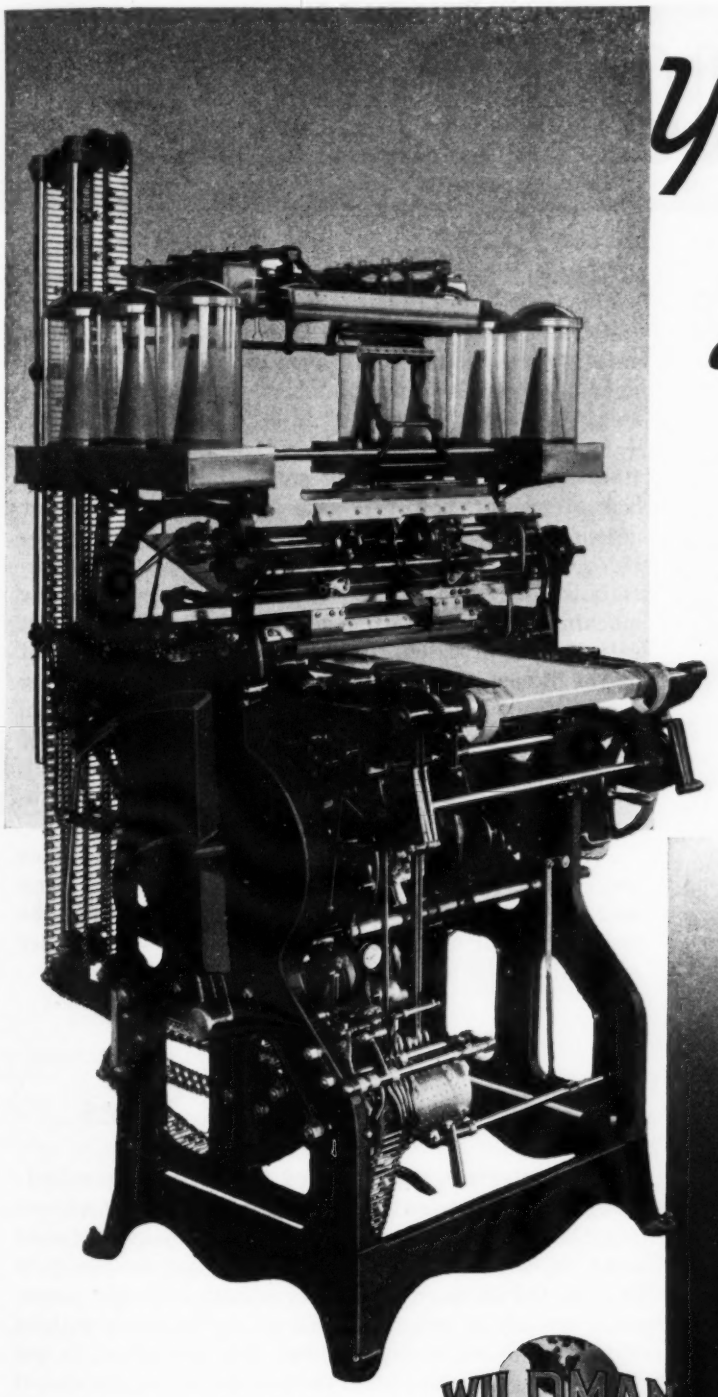
After such assurance as to the source of the trouble, we acted on the advice of the boiler engineer and reduced the visibility of the water on the water gauge to 3 or 4 inches. After making these adjustments and clearing the steam lines, our troubles vanished and our dyeing operations were once again carried out under normal conditions and with normal results.

Cotton Council Begins Work in Earnest

Spurred by the action of the Southeastern Governors' Conference in formally joining its fight against legislative "discriminations" on cotton byproducts, the National Cotton Council looked recently toward plans for action in specific states. The governors, in session in Atlanta, adopted a resolution urging Congress and state legislatures to repeal "uneconomic and un-American" taxes and laws against margarine, now made largely from southern cottonseed oil. This fight will be carried on concurrently with the campaign for freight rate reductions. Action of the chief executives was interpreted as giving further weight to the threat made two weeks ago by Oscar Johnston, president of the Council, that "unless such discriminatory actions are stopped, the South will be forced to retaliate with laws against products coming in from offending states." The thrust at repeal of "discriminatory" laws is one of several the Cotton Council is making on widely separated fronts in the early stages of its fight to regain cotton's lost markets.

In the fields of research and education, in national and international affairs, the council is making initial moves aimed at increasing markets for cotton not only at home but abroad. Less than a month after the first meeting of the council's board of directors in Memphis, a new and encouraging unity of spirit among cotton growers, ginners, warehousemen, merchants and cottonseed crushers is being noted in the South, Council officials point out. Council directors have authorized employment of a competent engineer to survey the 658 miles of cotton fabric road construction already in use in the United States. The engineer will head an exhaustive investigation to discover for the first time in history "the truth about cotton in roads."

If the survey discloses that this type of road is sound and can be built cheaply with cotton, every facility of the council will be called upon to further the use of cotton for this purpose. Council officials point out that a possible potential market of a million bales a year is the prize at stake.



Your customers..

(AND THEIR CUSTOMERS)

are Demanding

finer-gauge hosiery these days. That is why you NEED this modern WILDMAN Single-head, Single-unit machine now. It eliminates the problem of matching leg and foot because it knits the entire stocking in ONE OPERATION, perfect from top to toe! Other advantages that will appeal to you: simplicity of construction,—uniformity of production (eliminating "seconds" and "rejects"); ease of maintenance and operation, etc.

Literature upon request.

WILDMAN MANUFACTURING CO.
NORRISTOWN, PA.

WILDMAN
THE WORLD'S STANDARD

The Modern

WILDMAN SINGLE-HEAD, SINGLE UNIT FULL-FASHIONED HOSIERY MACHINE

KNITTING KINKS

Heels and Toes Sticking Up Between Cylinder & Dial

EDITOR COTTON:

To quote excerpts from the query of "CONTRIBUTOR No. 6802", which appeared on page 120 of the June issue of COTTON: "We have Scott and Williams 3½-inch 300-needle machines on which we make a 4-thread knee length style . . . heels and toes are of 100s/2 mercerized . . . having trouble with the heels and toes sticking up between the sinkers and dial." He writes that raising the dial is of some help; that tightening the heel stitch provides some relief, but that these methods are impractical and uncertain; that the trouble increases on damp days.

I believe that this man should examine these machines carefully, giving particular attention to the sinker action. The circumferential and diametrical adjustments of the right and left hand sinker cams should be closely checked. It is possible that these adjustments are on the tight side, which would necessitate a compensating loose adjustment—i.e., higher running of the cylinder.

The sinker cam cap screws (No. 15085) should be turned inwardly as far as is practical to bring the sinkers in without interfering with the forming of the stitch. This setting is of added importance as applied to the left hand sinker cam (No. 9173), because by distributing the tension wear over a greater area it prevents the cutting of grooves in the sinkers. The object of these settings is to permit the cylinder to be run lower, thereby providing more space between the sinkers and the dial. As the cylinder is raised considerably during the heel and toe knitting, this point is important.

The sinkers must move freely. This free movement will be impeded if the slots of the inside and of the outside sinker rings are not in alignment and/or if they are clogged with lint. The sinker band should be sufficiently elastic to actuate the sinkers positively. Using the yarns mentioned, it seems rather unlikely that the lower recess of the inside sinker ring should be stuffed with lint. If this condition prevails, however, it will cause trouble in the heel and toe. A check-up of the heel and toe yarn take-up and tension discs might be in order. The proper settings for these will be found by experimenting and is largely a matter of the judgment of the individual fixer. The sinker cap should reciprocate freely. The sinker cap clamps (No. 7109) and the cylinder hold down screw (No. 15355) should be so set as to avoid any possibility of their hindering this reciprocating motion. Keep the sinkers and cap well oiled.

I have used combinations of these suggestions in overcoming difficulties similar to those described by "CONTRIBUTOR No. 6802." The troubles were in a milder form, however, as we ran a plaited number, much heavier in weight and texture than his knee length style.

As he infers, the comparative lightness of the stocking has some bearing upon the trouble. This lack of weight, however, should be neither given nor accepted as *the* reason for the trouble. If a machine is properly adjusted at these points it is possible to lower the latch ring over bare needles as the machine changes into the heel and knit a heel pocket satisfactory in stitch, this occurs with only the weight of the fabric as it is formed to draw the succeeding course from the needles, ignoring the sinker action, of course. This should prove that it is a matter of proper adjustment, rather than of suspended weight, which is the deciding factor in knitting a heel without puckering.

Regarding the influence of atmospheric conditions there is very little I can say. Lacking humidifying and air-conditioning apparatus, we cannot temper the weather to our machines so we must reverse the order and adjust the machines to the weather.

CONTRIBUTOR No. 6832

Changing Half-Hose Sizes

THIS QUESTION was received from a correspondent: "In a discussion among fixers, concerning adjusting the stitch on circular machines to make different sizes of half-hose, one side said it is not necessary to change the links on the pattern chain but only necessary to turn in or out the screws on the main pattern drum. The other side claimed this procedure is not good sizing practice as it throws the stitch gauge out of proportion. Which method is the better practice?"

The following answer has been given by a practical knitting mill man:

"There is but one correct method of changing sizes on half-hose or any type of seamless hosiery for that matter, and that is to add or remove chain links to or from the foot. The same procedure is used to lengthen or shorten ribbed tops for half-hose or children's hosiery—courses are added or removed to make a top longer or shorter. And to go a step further, the same principle is involved in making ladies' or men's full-fashioned hosiery—courses are added or removed to length or shorten the foot or leg.

"For example: most mills use size 10½ on half-hose to set their standards by; that is, they decide how loose or tight they want the fabric to be, using

a given count and kind of yarn. Sufficient links are put in the leg and foot to give the desired finished lengths. As a rule, on 200-, 220-, or 240-needle half-hose, one link (or 12 courses) are added to the foot of a size 10½ chain for each half size above 10½, or removed from the 10½ chain for each half size below. In other words, a size 11 chain for the foot would have one link or 12 courses more than a size 10½. Some mills make the legs on size 11½ and 12 longer than the legs on 10, 10½ or 11 sizes; others make all legs the same length on all sizes from 10½ to 12 inclusive. All of which means that all sizes should have as nearly as possible the same number of courses per inch of fabric and this can only be accomplished by adding or removing links from or to a given standard.

"The man who says it is only necessary to turn drum screws in or out (he means stitch adjusting screws) to change sizes on half-hose has not passed the first grade in the school of knitting practice. Perhaps some of the rags we see today are made by setting up a machine on size 10½ and then loosening the stitch up sufficiently to make a size 12.

"The man that said turning screws in or out throws the stitch gauge (elasticity) out of proportion is perfectly right, and may I add that in my opinion it also throws repeat orders out of the window."

Loose Lines in Seamless

In which the original inquirer tells of practicing suggestions made through "Cotton," and gives the benefit of his experience . . . . . .

EDITOR COTTON:

Bringing up "What Causes Loose Lines" again. I would like to reply to the numerous contributors* who so kindly offered suggestions with a view to helping us to overcome this nuisance.

The inside sinker ring was mentioned by all the contributors as a very likely cause of our trouble, and all the machines most troublesome to us as far as lines or loose wales were concerned had very badly worn inside (brass) sinker rings. The walls had grooves of various depths worn in them. This appeared to be a very good reason why we were having trouble with loose lines. So we replaced one of these old rings with a new steel one. And our troubles were over forever??? No! Unfortunately not, but the fabric had cleared up to such an extent and remained so for such a lengthy period of time, that we set out on an inside sinker ring changing program with results which proved it was well worth the cost.

Sinker rings alone are not the cause of loose lines appearing in seamless hosiery. In determining why some of our rings were worn worse than others we learned that some fixers had been in the habit of putting a kink in the *front* of the needle—not the *side*. This caused the needle to lean harder against the cylinder at the top and bottom of the needle and to belly-out in the middle of same. When the needle came in contact with the inside sinker ring it was with greater force than would be the case normally, thus creating more wear on the ring which being made of brass wore very easily. The result of this discovery was a rule for the fixers to put the needles in the machines exactly as they came from the manufacturer; of course the usual aligning of needles after they had been placed in a machine was continued.

Another reason why our lines were more prominent than they would have been even with badly worn rings, cams, etc., was the bumper screw setting, pointed out as a likely cause by "CONTRIBUTOR NO. 6590." In many cases a machine making streaky hose did not have the sinker cam ring set far enough to the left or to the right, as the case may be, so as to have the sinker wave coincide with the needle wave (see page 15 of S. & W. Catalog—Sinker Adjustment). This sinker adjustment if not done properly will produce sleazy hose which tend to show up any loose wales which otherwise would be more inconspicuous. This sinker cap setting is important on circular knitting machines employing a sinker in the formation of the stitch and as "CONTRIBUTOR NO. 6590" said, "It is not fully realized by some fixers."

We find the best method to employ when replacing an inside sinker ring is to give the machine a complete overhauling. Replacing badly worn stitch cams and side cams and polishing up the needle race cams so as to remove all the nicks is to us now just a matter of course. New needles and sinkers are put in at the same time as the new ring so that when we are finished putting in the ring the machine has been gone over in such a thorough manner that the only reason for any lines appearing after we are finished is due to needle alignment alone. After a machine has been overhauled in this manner it will turn out hosiery with firm even loops and entirely free of loose lines. BUT as "CONTRIBUTOR NO. 6595" pointed out in his article on loose wales, "The writer still hopes to see the day when this particular trouble can be POSITIVELY eliminated."

Regarding the jack dial in relation to loose lines we cannot say that a jack dial being off center slightly would cause these lines, but as we know there is no harm in having a machine as mechanically perfect as possible, we include this in our overhauling at the time of replacing the inside sinker ring. One day a machine known to be a stubborn producer of streaky hosiery was picked out and tested with a centering jig and we found that the cross bar hole would not line up with the hole in the centering jig perfectly. So we centered-up the crossbar in the usual way. A day or so later we went back to the same machine and tested it with the centering jig again; to our surprise we found it was out about the same as it was before we had lined it up. We proceeded to tear the machine down so that we could look at the sleeve gear that carries the cylinder and found that there was consid erable play at this point due to wear, allowing the cylinder to slip from side to side out of line with the

*The original question appeared on page 137 of the November, 1936, issue. Subsequent answers to the question were on page 125 of the December, 1936, issue, page 118 of the January, 1937, issue, page 176, February, 1938, issue, and page 121, March, 1938, issue.

jack dial. When this condition exists it is not a case of the jack dial being out of line with the cylinder, as a matter of fact it is the cylinder which is out of center with the jack dial. In order to tell whether a cylinder has too much play one has merely to grasp the cylinder firmly in the hand and push back and forth on it, without tearing the machine down, this way you can feel the amount of play and judge whether the amount of play existing warrants putting in a new bearing ring or not. We have found that the best method to employ when the jack dial tests "out-of-center" is to make sure the cylinder is in center before doing any re-centering of the jack dials. Quoting "CONTRIBUTOR NO. 6595", "re-centering of the dial should be the last resort."

CONTRIBUTOR NO. 6585

Where Do the Legs Go?

By Erskine Root

WHEN WE SAY, "Where do the legs go?" we mean just that. We are referring to the dozens of full-fashioned legs that have apparently been manufactured and paid for according to the books but fail to balance within reason as compared to the footed work when inventory time rolls around. In many mills producing in the neighborhood of one hundred thousand dozens a year it is customary to take inventory semi-annually and there is often a large shortage of legs, which total amount often runs as high as one thousand dozen and over. In mills of great size it has been this writer's experience that they have a constant check of all stock, but of course we have not been in all the large plants so there may be some who do not adhere to this procedure.

Even with the utmost precautions and checking system there are usually some legs that have "gone with the wind", so what must be the results when there is no check at all, which is how many mills operate? They pay for so many legs and feet and take the loss on the chin.

There may be some, perhaps, who will contend that counting each individual dozen is an expensive proposition. In one way they are correct, because this expense appears on the books as time work with nothing produced and therefore comes under overhead.

But let us relax for a moment and get down to brass tacks, and see which is more expensive, a system of counting all the stockings in each dozen or the slip-shod method of hoping we are receiving our money's worth. The following are actual facts.

Some years ago this writer was employed by a mill several weeks before the June inventory. As was expected, the word came from the office, accompanied by a lot of sheets of paper, that we were to take inventory on a certain date. This particular mill had a rule that every nut, bolt and machine part should be counted and checked thoroughly, so we went at the task diligently, thinking that here was one mill that most certainly kept track of everything that came in and went out. In fact, it took the time of two men to go over the stock in the machine shop alone, and then the report was ready after a day and a half of work with pencil and paper. We had a copy of the previous inventory and as parts were used up they were checked off and when our report was finished it had to balance with the daily reports which went to the office.

Let it be understood right here that we had nothing to do with the gray stock; it was out of our hands completely, being cared for by the seaming and looping room employees. All we did was keep the knitting room operating as successfully as possible. We had not had time to look over the method used in checking the legs and feet but thought there must be some sort of workable system.

A Short Legged Mill

A few days after our report had been turned in an executive meeting was called. Everyone had a comfortable chair and listened attentively as the owner went over the different reports. He came to ours and passed over it without much comment but he lingered on the report from the gray room long enough to read the total figures.

Legs Produced	59,000 Dozen
Legs Footed	57,000 Dozen
Legs on Hand	800 Dozen

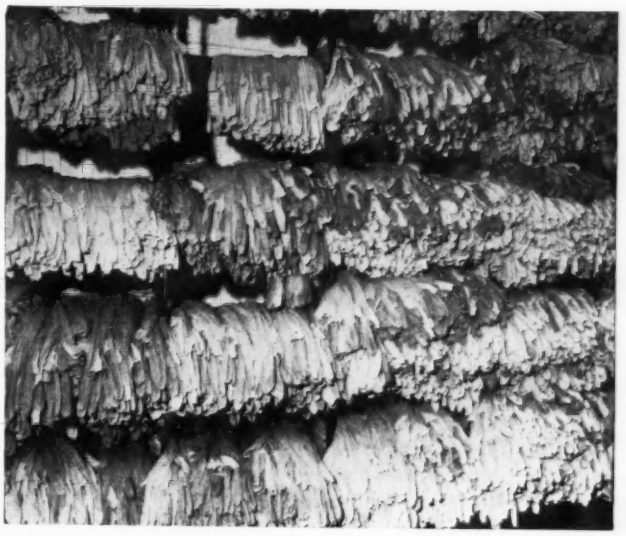
Believe it or not, those were the actual figures and after a quick summing up mentally we expected an explosion but to our amazement there was no such thing forthcoming!

Twelve hundred dozen legs missing! And not so much as a murmur from anyone concerned, not even the owner, who in this instance really had something to squawk about. Concluding that silence was golden in this case until we had an opportunity to delve thoroughly into the matter we made no comment, but as soon as the mill was operating again we made it our business to investigate and try to get to the bottom of this enormous shortage of legs. It was a very delicate situation and had to be handled with extreme caution even though someone in the plant was erring to the extent that it could possibly be called mismanagement.

Several days after the meeting we had occasion

Author's Note: Kindly let it be understood this article is not written as a reflection on any mill but with the idea in mind that if it helps some person keep a better check on the gray stock our time has been well spent.

to talk with the owner and very tactfully we brought up the subject of the missing legs. To our surprise he admitted this sort of condition had existed since he had been in business. course and deemed it He took it as a matter of was inevitable, just checking it off as loss!



With a little persuasion, we received his permission to nose about about and try to discover just where these legs were disappearing but at the same time he was skeptical, firmly believing there was no cure for this ill that was costing him in the neighborhood of eight thousand dollars a year. We went at our task with vim and vigor, fully realizing that somewhere in the plant someone was grossly negligent.

Here are some of the most important facts discovered during our inspection:

Leggers turned in dozens and there was never any count as to whether there were 20 or 24 stockings in each bundle. This had to be eliminated at once as the first step in overcoming unbalanced reports.

After much controversy we finally convinced the owner a girl should be employed to count each individual dozen religiously. We insisted on an outside girl for the simple reason she would have no contacts in the mill which might persuade her to stray from the beaten path and give us only a partial report, which often happens in the best of mills. To a new girl one operator was like the rest and there would be no favoritism shown to any particular group. In fact, we firmly believe it was the only possible way to receive the best for the money.

What was brought to the light of day was a revelation! Out of a clear blue sky certain leggers were emphatically informed they were handing in as many as six short bundles out of ten. Perhaps the reader may think such a condition is impossible in this day and age but we know it really did exist in this mill. To those who have perhaps never operated a knitting machine these tactics are called "fair fooling", an expression that has not even penetrated into all sections because it is impossible to "fair fool" the management.

The legs should be counted at the heels. One firm, to our knowledge, employed girls to count the dozens of legs and they used the welts as a medium of counting. This is a mistake because we observed operators doubling over a welt, therefore the girl counted the same stocking twice. When the bundle was rolled the operator placed the "double" stocking to the outside where it was sure to be counted and the girl never knew the difference with the result there was still a large shortage of legs until the trick was discovered.

It is up to the management to stop this sort of thing. One bad apple will spoil a whole barrel and if an operator who is really conscientious observes his buddy continually running in short bundles and getting away with it, it is only natural that he begin sto think himself a fool and will do likewise unless he is really addicted to honesty to the extent it means more to him than the few cents he can make by "fair fooling."

After our discovery we informed the leggers that henceforth every dozen they turned in would be counted. Also, they would be allowed but one short bundle a week, all over that they would have to pay two for every stocking missing.

We admit that it is possible for anyone to make a mistake but there is no excuse whatsoever for more than one short bundle a week and there are some whose theory is that they will not even accept that many. They are correct too, for operators are paid for full dozens, and should take time to count each bundle and see that they turn in the correct amount. So much for the leggers.

Next, our attention settled on the footers. Through no fault of their own they were given their work at random, as many dozen as was on hand of the particular style they were running. This was a fatal mistake. Upon counting the footer's work we also found there were not as many stockings coming back as had been distributed. From that moment on we insisted that each footer be given ten dozen at a time and he was responsible for the return of a like amount. We prohibited footers from giving a legger a bad stocking which could be topped on the legger, regardless of how great the need was for a legger to have a "long one" to get off a full set. If the footer had a stocking that was bad below the permitted topping line it was necessary for him to turn it back to the stock room and receive credit for it. Thereby, there was no chance for the footer to be short at all, and there was always a check as to how many legs he should have on hand.

Just the simple matter of counting the stockings brought the loss from twelve hundred dozen down to about fifty dozen at the next inventory. This could be laid to human error, in other words mistakes in figuring.

There is no doubt but that continually counting stockings day after day becomes a monotonous job so we eventually had three girls alternating after we got down to the facts. When they were not on that job they were doing something else which was necessary to the well-being of the plant. We also found that one hundred and fifty dozen an hour was a suf-

ficient number for them to check for beyond that number they would become careless because they had to hurry too much. We paid exactly twelve dollars a week to have the total production checked and it saved over eleven hundred dozen. So which was the cheapest, some six hundred dollars a year or a loss of eight thousand?

Eventually, when we had work for the girl who was doing the counting we would only take five dozen from each operator on that particular day, and of course they never knew which day that was going to be even if they had been informed of the fact that such was the case. So if your legs are missing, check and double check if necessary for it is more profitable in the long run to do so.

Crossed or Straight Belts

EDITOR COTTON:

On page 122 of the November issue of COTTON, "CONTRIBUTOR No. 6755" has asked whether it is better to run a belt straight or crossed belt, which way it will pull best and stay cleanest, and which way it will last the longest. I assume that he refers to a single ¾-inch leather belt for driving a hosiery knitting machine and that the machine has a 7-inch driven pulley.

It is always advisable to use a 7-inch or larger driver pulley, which will be as large as the driven pulley, because this size will give a good pulling surface—one much better than a smaller pulley. If the belt is run straight with the hair side next to the pulleys it will last longer. A belt running crossed will have slightly more traction or pulling surface because more of the belt contacts the pulley, but the friction caused by the sides of the belt rubbing together will almost offset any advantages gained by this extra surface contact. The crossed belt will probably keep cleaner than the straight belt as it will clean itself by rubbing together.

The straight belt will last longer than the crossed belt. This can be proven by testing both ways. My preference is for the straight belt.

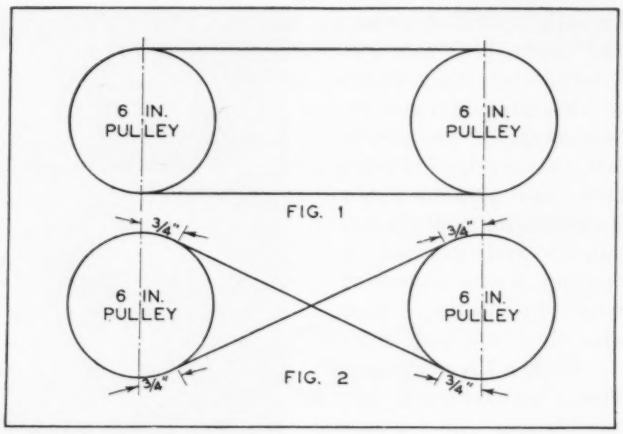
CONTRIBUTOR No. 6869

EDITOR COTTON:

"CONTRIBUTOR No. 6755" has asked among other questions one concerning the pulling power of straight and crossed belts. I will demonstrate my opinion by the sketches Figs. 1 and 2. It will be noted in Fig. 1 that the natural course of the belt run on two pulleys of equal size is straight. In Fig. 2 the belts cross—using the same size pulleys to illustrate.

My contention is that the crossed belt will have considerably more pulling power. In determining the actual percentage of increase in the pulling power, it would depend on the distance of the driver and driven pulleys from center to center.

Using our illustrations, and assuming that the two pulleys are of 6-inch diameter, and are 36 inches apart, I figure the increase in actual pulling power by using a crossed belt to be approximately 16 per cent



as there will be ¾-inch more belt on the two pulleys at two different points, making a belt surface contact to the pulleys of an additional three inches.

The natural amount of the pulling or power surface of the belt on the pulleys, run straight, would equal the complete circumference of one pulley, which would be 18.84 inches. The added three inches gained by running the belt crossed would raise the pulling power approximately 16 per cent. It is my belief that the added surface of pulley should be counted both on the driver and the driven pulley, as the power would be produced or lost equally on either pulley.

A crossed belt will naturally stay cleaner because the two surface sides of the belt continually rub each other, thus keeping the surface of the belt which contacts the pulley clean. However, the rub will not be sufficiently strong to wear the belt.

I recommend using the crossed belt whenever possible to do so. I can see no disadvantages other than the fact that in certain circumstances they would possibly be harder to shift where idle pulleys or two-speed pulleys are being used. Of course, where there is a line of machines on each side of the driving shaft, it is only possible to cross the belts on one side.

The foregoing ideas are offered only in assumption that "CONTRIBUTOR No 6755" has in mind running the common flat belt drive.

CONTRIBUTOR No. 6871

Radio and Talk-Back System

Bell Sound Systems, Inc., 1183 Essex Ave., Columbus, Ohio, has introduced a new radio and talk-back system which is helpful to the operation of commercial establishments. It provides for radio, phonograph, or voice amplification with as many as 40 outlying stations. Desk type, it is attractively arranged in a modern walnut finished cabinet, embodying an 8-inch audible monitor, 25-watt amplifier, radio tuner, and phonograph turntable. Outlets provided for 40 rooms, are controlled by the new key-type individual switches, and also a master switch for emergency use.

The Cross-Index for all articles appearing in COTTON during the year 1938 is available to subscribers having their complete file of the magazine for that year. This will be furnished without charge to subscribers upon request. The Cross-Index is only of value where a complete 1938 file is available.

An Eye on the Knitting Mills

Ben S. May, executive of the May Hosiery Mills, Burlington, N. C., has purchased the property in Greensboro, N. C., known as the Forbias Building. The lot is 28x150 feet and at present a one-story building is located there. It is understood that no immediate changes in the property are to be made.

According to reports, W. F. Kincaid, Jr., Lincolnton, N. C., has purchased the silk mill at Stanley, N. C., owned by Katterman and Mitchell Co., Inc., and is contemplating establishing a full-fashioned hosiery mill. It is understood that he will replace the obsolete machinery with new equipment.

C. F. Smith, formerly superintendent of the Elizabeth James Mill No. 1, Marion, N. C., has been engaged in an effort to form a stock company to take over and operate the men's half-hose mill which C. F. James, owner, said he would liquidate.

A proposal to establish a small hosiery mill at Ahoskie, N. C., has been made by a Newport, Tenn., concern, according to reports. It is understood that a hosiery mill will move to Ahoskie should plans go through.

Shoaf-Sink Hosiery Mills, Lexington, N. C., has awarded a contract to C. M. Ward for construction of a brick and steel sash building, 60x160 feet to provide additional room for its finishing department.

A new full-fashioned hosiery mill has opened at Bland, Va., and six full-fashioned hosiery machines have been installed. Other machines will be installed as soon as labor can be trained.

A charter has been granted to the B. G. & D. Hosiery Company, Inc., Petersburg, Va., to manufacture and sell hosiery and other knit goods. F. W. Beville is president.

Substantial orders for Reading full-fashioned knitting machines of the latest type have been placed by prominent hosiery manufacturers on the European continent and in England.

Devon-Sheer Hosiery Mills, Inc., Danville, Pa., have made application for charter in Pennsylvania, and are considering Danville as a possible site for the plant.

Grenada Hosiery Mill, Grenada, Miss., has had plans drawn for an 80x100 foot addition to the present plant. The building will cost between $8,000 and $10,000.

Guy Sheeler, son of the late Harry W. Sheeler, founder of the IXL Hosiery Mill, Robesonia, Pa., has taken over the management of the business since his father's death.

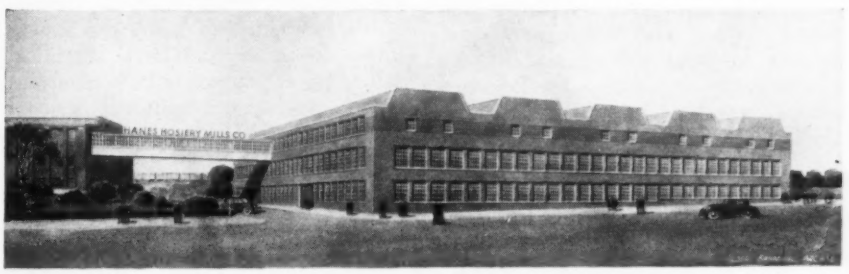
Plans are being negotiated so that the Stevens Hosiery Mills, Inc., Hackettstown, N. J., will have additional property upon which to expand the mill buildings.

It is reported that J. Mack Hatch, Belmont, N. C., has conferred with citizens of Cherryville, N. C., in regard to the establishment of a full-fashioned mill at Cherryville.

G. & H. Hosiery Mill, Hickory, N. C., is building an $8,000 brick and steel building to house the plant, which will be moved from its present location on 23rd St.

The machinery and equipment of the May Hosiery Mill, Murfreesboro, Tenn., has been moved to the company's plant at Nashville.

Hudson Silk Hosiery Company, Charlotte, N. C., has recently completed installation of a fluorescent lighting system.



Architect's rendering of proposed addition to be constructed at the Hanes Hosiery Mills Company, Winston-Salem, N. C. The mill will contain 194,740 square feet of floor space, and will embody latest developments in textile plant construction, design and equipment. It will be used for the operations of pairing, stamping, folding, banding, boxing and shipping and for warehousing. Albert H. Kahn, Inc., New Center Bldg., Detroit, Mich., are the architects and engineers. Construction work should start in May . .

Clarke Washington Industries, Inc., Jackson, Ala., have opened bids for construction of a new building to house a hosiery mill proposed by the firm.

North State Box Company, Statesville, N. C., will begin manufacturing boxes for the hosiery mills in the near future.

Rutledge (Tenn.) Hosiery Mill is being built. Rutledge is the county seat of Grainger county, near Knoxville, Tenn.

Hanes Hosiery Mills, Winston-Salem, N. C., will build a large addition to take care of increased business. It will be a 90x250 brick structure.

Holt Hosiery Mill, Graham, N. C., is installing two new single-unit full-fashioned machines. Six others will be installed as soon as possible.

Myrtle Knitting Mills, Inc., Farmington, Conn., have applied for charter with authorized capital of $100,000.

Thompson Knitting Mill, Lewistown, Pa., has installed new 42-gauge full-fashioned knitting machines.

Dunn (N. C.) Hosiery Mills, Inc., has been incorporated for $50,000, with $1,500 being subscribed.

Quitman (Ga.) Hosiery Mills will add to its present machinery a battery of loopers and seamers.

Josephine Mills, Inc., Marion, N. C., has been organized with a capital stock of $50,000.

Vanette Hosiery Mills, Dallas, Tex., will build a new addition to the plant and will install 10 additional machines.

Loma Knit Works, Inc., Detroit, Mich., has been incorporated.

Asheville (N. C.) Hosiery Company is expanding the knitting department.

Vacuum Cup Pulleys

Vacuum Cup Metal Pulley Company, Inc., 12536 Grand River Ave., Detroit, Mich., has available a standard line of vacuum cup pulleys, made up under production methods in large quantities, and at lower prices. All have the standard keyway and setscrew, and the right size hub for each bore. According to the company, the vacuum cup pulley eliminates belt slippage because the belt is sealed to the pulley by the vacuum cup. Tight stretching of the belts is unnecessary, thereby increasing the life of the belt. There is said to be no power loss in heavy shock loads and the pulleys do not wear down or uneven, thereby eliminating pulley replacement expense.

TRENDS and HIGHLIGHTS of the KNIT GOODS MARKETS

Manufacturers Squeezed Between Higher Silk Prices, New Wage Minima And Resistance to Higher Hosiery Prices—Spring Underwear Fair But Fall Orders Slow—War Scare And Cold Weather Retarding Influences—Modernization More Important

Philadelphia, April 15, 1939

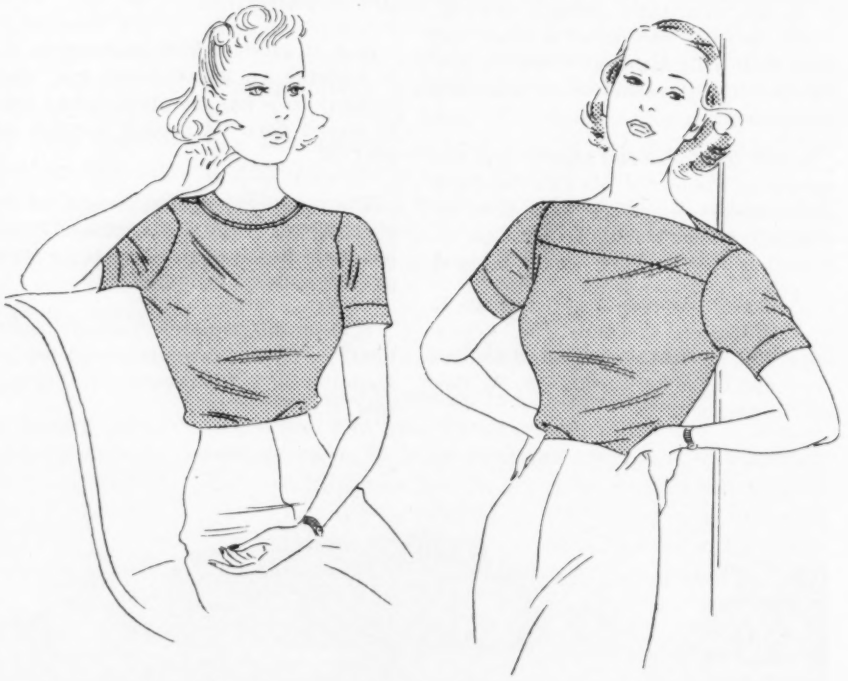
THAT THE EARLIER ADVANCES in silk were no flash in the pan was proved this month when a new and nine-year peak for this commodity was reached. This peak topped that of early March by a considerable margin and means that many hosiery manufacturers will have to pay even more than they had counted on for silk and yet one large branded mill has announced that it will make no change in hosiery prices during May at least. Seamless women's lines have been advanced up to 20 cents a dozen and other hosiery lines are higher if not on account of silk then due to the wages and hours minimum wage recommendations which will increase costs especially for mills making lower priced lines. With wages and taxes fixed uniformly and so high this means that manufacturers that have the most efficient plants, labor and machinery, will offer the best competition in the market. Hosiery demand so far this year has been very good notwithstanding serious outside handicaps such as war scares and while underwear operations are better than a year ago these mills report that fall orders have been slow in developing. Wages and hours minimum regulations are vital considerations for them also.

Full-Fashioned

The continuing advance in silk is the chief worry that full-fashioned hosiery manufacturers have because demand for their goods so far this year has been very satisfactory as a whole. They are concerned that the advance in silk will shortly make it necessary for them to raise their prices and this in turn may make it necessary for a change in the present retail price tags, 69 cents, 79 cents and up which have been so well liked by consumers. Indications are these prices in the fall will be up about 5 cents a pair. Retailers and jobbers while seeing the justification for the coming advances assert that they are not in position to buy goods ahead in order to protect themselves. They will take the advance in stride and pass it on but now show no worry on this score. Two-way stretch top hosiery for women is making a hit. Another retail good line has been the run-resist seamless silks that sell for around 50 cents per pair but full-fashioned men say they do not fear such competition, asserting it is old seamless business and not inroads on full-fashioned. Prices of low-end full-fashioned lines have strengthened on account of silk but no general price change has come in full-fashioned as yet. One branded mill has announced that it will make no change at least during May and this, although not assuredly, may mean no general change at least for another month but fireworks in silk could change this before. The passing of the seasonal peak in demand for full-fashioned is causing manufacturers to be less anxious to follow silk up to its present heights but most mills are not in possession of much silk ahead.

Men's Half-Hose

Men's half-hose has not been as active as some other sections of the market, jobbers reporting that the spurt in such lines of the latter half of 1938 did not carry through the first quarter of this year. February production of them by the mills was under that for the same 1938 month and production for the first two months this year was slightly under that for



With spring and summer ahead, the trend is toward casual cloths. Above are shown two new styles in sports shirts made of Durasheen, a circular knit fabric of the flat type in fine, rich-looking mercerized cotton, perfect for outerwear. The colors are fresh-looking, feminine, and flattering. The styles are perfect play-mates for slacks, shorts or the new skating-type skirts. A crew neck with softening self collarette distinguishes one model. The other boasts a simple, smart boat neck of double thickness fabric cleverly made as a yoke. Featured in Coraldust, Surfblu, Sundawn, or White. Courtesy Munsingwear, Inc.

the same two months a year previous while in some other lines such as full-fashioned and seamless for women the reverse was true. With new and higher wage levels in prospect for many knitters turning out such lines indications are that the low-end merchandise at least will have to be advanced by the latter half of the year but this prospect is not bringing advance coverage into the market except in a few instances where large chain buyers want some goods ahead. Department stores have been featuring the cheaper lines selling around 20 cents per pair and report that a large percentage of their business has been in such lines. Cold weather has been against early activity in spring styles and especially in the short socks with elastic tops in which a good share of the coming months' business will be centered, this being a decided style trend of recent seasons.

Seamless

Women's seamless lines have been marked up on account of the drastic advance in raw silk, the advances being more marked than in full-fashioned lines. The advances have not been large enough as yet to make any important change in the retail price tickets of seamless but if this movement in the raw market with higher wage levels is maintained then additional advances will have to come from the mills and make the consumer pay more. Advances to date have been absorbed by knitters and jobbers or retailers. Some lines of silk seamless have been advanced 20 cents per dozen. Production of seamless lines has been about on a par with the same time a year previous with the first two months' production being about 10 per cent larger than a year ago. Indications are prices of these lines will stiffen as the year goes on and demand will continue relatively good. Anklets have been selling actively with production running considerably ahead of the same time a year ago. Retailers are stocking up with spring numbers and jobbers are doing well in them. Prices are higher with sharp advances having been made in the low-end merchandise. Jobbers say indications are 10-cent anklets will be hit hardest in the way of increases.

Underwear

This branch of the industry had two good months, January and February, when compared with a year ago but since demand has been less active. There has been a lack of general coverage in fall lines while most mills report having done well in the spring numbers. During the first two months this year in many instances production was about one-third higher than a year previous and about 9 per cent above what they consider normal for this time of the year. The April comparison will be less favorable than that. Cold weather has been a handicap to immediate season business, and while knitters had early orders on these lines that were shipped the damage to retail business hurts nevertheless. There has been some coverage in fall lines because of the fear of higher prices coming as result of the higher wage minima but this has not been general. Prices have not changed in fall lines from the opening level but talk is general that due to narrow limits for knitters these will have to come before the year is much older.

FORECAST

(Opinion submitted by "Cotton's" market correspondent.)

Philadelphia, April 15, 1939

The situation in Europe has made necessary revisions in forecasts made earlier this year. These were to the effect that after a relatively short period of industry moving sideways the rising trend of the latter part of 1938 would be resumed although at a less active pace. The destruction of confidence throughout the world by the threats of war among the major powers has made it necessary to revise conservatively downward expectations of the volume of business to be expected during the next few months and possibly for the year.

Destruction of confidence to a great degree was reflected in the drastic lowering of stock and bond quotations here and abroad and this in turn makes the second reason for predicting that it will take some time to remove uncertainty in businessmen's minds. Buying will be on a more hand-to-mouth basis than we have predicted heretofore even though fundamentally there are reasons for looking forward to better times in textiles where in general the inventory position has been further improved and the trade is generally liquid. War abroad would mean an interval of liquidation and declining prices but this period would not be nearly so severe as we had at the outbreak of the World War and thereafter American business could be expected to expand but also not so much as at that time.

Although textile manufacturers have begun to feel the effects of this threat the hosiery industry has been in the forefront in maintaining its operations at a very good pace. Production of all types of hosiery in the first two months was higher than the same two in 1938 and getting up to make a good comparison with 1937. The same cannot be said of underwear where more mills have been draggy and new business slow. For these branches of the industry the outlook is slightly less rosy until general confidence is restored but with prices remaining firm in view of high silk for hosiery and the new wage minima that may be shortly announced.

The outlook in silk prices, that have reached a nine-year peak, will remain strong for months ahead due to the need of American mills to cover and also the strong statistical position of this commodity. Earlier predictions prices would ease late this spring must be deferred due to the strong statistics of production, stocks and consumption here and in Japan. Cotton prices will remain where they are unless the Government does the unexpected and lets go of its huge holdings at low prices. Wool is easy but no important decline is expected in view of the general steadiness of the world markets.

Purchasers of textile commodities and yarns are pursuing a cautious buying policy and it is best for them to maintain such practices until the situation here and abroad gets brighter. There does not seem to be in prospect any runaway situation and this applies to silk in which the situation got away from American knitters but which now can best be handled on a hand-to-mouth basis. Higher hosiery prices will have to point the way out for knitters rather than taking a chance on the commodity price holding or going higher to make money for them.

Silk Advance Disturbs Hosiery Manufacturers

The exceptional strength in raw silk over the last month has now reached a point where hosiery manufacturers are confronted with important decisions. These mills are confronted with the need of raising their hosiery prices immediately or else seeing their profit margins narrow during the balance of the spring season. Manufacturers of women's seamless silk hosiery have been quick to pursue the policy of advancing prices of their merchandise, some of them having recently put into effect 20-cent advances on silk seamless and while a large volume of business has not yet been placed at the full advances a fair volume of goods has already been moved at slightly higher levels than a month ago. It is far easier for these manufacturers to obtain advances in the middle of the season than it is for the full-fashioned section of the industry.

Although there is every justification for full-fashioned hosiery manufacturers immediately placing advances of 35 to 50 cents a dozen in effect at the least there are indications that aside from scattered advances in low-end goods there will be no general price

advance in the market at this time. The most important reason for making this assertion was the announcement that the market heard that Julius Kayser & Co. had decided not to take any action at this time and that they would continue their present list until the end of May. Ralph H. Baruth, vice-president in charge of sales at Kayser, confirmed the fact that the line had been opened for May without advances. As Kayser generally takes the lead in so far as branded full-fashioned prices are concerned, its decision was seen as postponing not only advances on other branded lines but possibly the hoped-for adjustments on unbranded merchandise. It appears probable only that individual style that are out of line in price will be marked up at this time.

Hosiery Executives Look for Price Increases

Joseph Haines, Jr., executive secretary of the Full-Fashioned Hosiery Manufacturers of America, Inc., said, "The wholesale selling price of full-fashioned silk hosiery is definitely due for an advance." Mr. Haines said there are two reasons for advancing prices, the increased cost of silk and the high likelihood of a 40-cent minimum wage for the full-fashioned section of the industry. The manufacturers have not been able to secure advanced prices but he declared the writing is on the wall. "The silk advance came very slowly," he continued. "Had it been a precipitous rise or a predictable mark-up, owing, for instance, to a poorer crop, manufacturers would have been well covered and hosiery selling prices of the moment might have been held for several months in the hopes that values might slip back to their old position. The slow creeping up of the silk market caught most all mills with short supplies. Some are covered for a few months but the general average as far as can be ascertained is much short of that. The present level of the raw silk market has been slowly obtained by the process of quiet, steady and orderly advance and gives strong evidence of at least maintaining its present position.

"On the present basis of silk, wholesale prices on hosiery should be raised 35 to 50 cents per dozen in accordance with gauge and thread. The other cause for advances is not so imminent. The hosiery industry committee that has just submitted its recommendations to the wage and hour administrator, Elmer F. Andrews, was unanimous in recommending a 40 cent per hour minimum in the full-fashioned mills. That figure will make the pay-rolls higher and add an extra item to the cost of hosiery. The 40 cent minimum is a desirable factor in the industry, it will bring labor costs in all mills more nearly in line."

Increases of about 10 cents per pair for silk hose at retail were declared necessary, early in April, by T. R. Durham, secretary of the Southern Hosiery Manufacturers Association. He declared even before the last spurt in silk that hosiery prices should be advanced at least 50 cents per dozen. He also called attention to the coming 40 cents an hour minimum wages as another factor that must be considered in setting prices on new orders. Mr. Durham also said mills selling their goods in the gray to be finished by other plants have likewise suffered from the high cost of silk and have had to curtail production and will not be able to operate on full schedules until the price of their product is advanced.

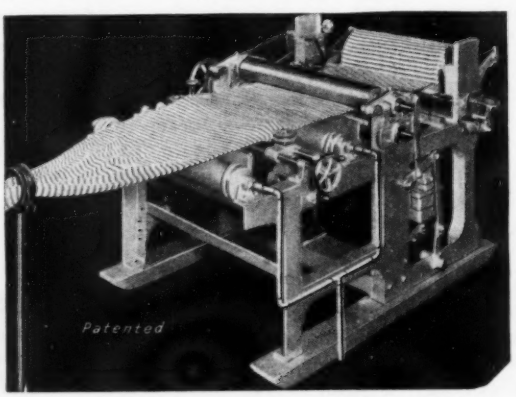
Apex Wins Important Suit Against Hosiery Union

A verdict assessing damages of $237,310.85 which was immediately tripled under the Sherman Anti-Trust Act, against the American Federation of Hosiery Workers, Branch No. 1, and its president, William Leader, was returned in the Federal District Court here on April 3 in the Apex Hosiery Company sit-down strike case which has attracted national attention during the last two years. Total damages of $711,392.55 were increased by the order of Judge William H. Kirkpatrick that the defendants pay a fee of $25,000 to the Apex attorney, court costs will also be charged against the defendants if the verdict is upheld and in this connection union counsel has stated that an appeal to the higher courts would be made. A jury composed of eight women and four men decided that the union and its president were responsible for damage to the above amount suffered by the company as a result of a 48-day sit-down strike started at the Apex plant on May 6, 1937.

Three other officers of Branch 1, Joseph Burge, vice-president; Ulysses Brown, secretary, and Harry Ohmeig, treasurer, were absolved of responsibility by the jury which deliberated less than four hours and a half. Union attorneys attacked the verdict, asserting labor's right to strike would be seriously restricted if manufacturers could bring suit, claiming that every strike was a conspiracy to restrict interstate commerce within the meaning of the Sherman Act. It is understood to be the largest amount of damages ever rendered in a labor case in this coun-

Steaming and Finishing Machine

The Tubular Textile Machinery Corporation, New York City, makers of Tube-Tex machinery, has announced a new Tube-Tex high speed steaming and finishing machine, designed for warp knit, sewn tubular, and circular knitted fabrics. It handles cotton, rayon, woolens and mixtures at speeds up to 40 yards per minute. Designs and stripes are finished absolutely straight and free from distortion. This latter feature is made possible by the recent development of what they call a striper, which is an internal belt conveyor which puts each stitch into the same perfect alignment as when it left the knitting machine. The striper carries the sides of the fabric at controlled variable speed. This gives complete control of the cross lines in the finished roll. The machine itself has a double steaming arrangement and adjustable pressure arrangement on the calender rolls which permits change in pressure as well as complete roll separation. One man handles a machine at speeds from five to 40 yards per minute. Uniform width from end to end is insured. The machine is equipped with a variable speed drive adjustable while in motion. Standard machine handles all widths up to 38 inch tubes. Warp knit fabrics may be finished up to 60 inch tubes or up to 120 inch flat form. The sewn edge of warp knit fabrics is trimmed off by a special cutter. H. W. Butterworth and Sons Company, Philadelphia, is manufacturing licensee.



Left: Tube-Tex Machine

try, although it was considerably under the amount for which Apex originally sued the union but which were reduced during the thirteen-day trial. Damages were itemized as follows by the jury: loss of Apex profits during occupancy of the plant by the strikers, $24,000; physical damage to the plant and equipment from May 7 to June 23, $82,644.59; overhead expenses incurred by the company during the strike, $102,667.26; loss of profits after the strike by reason of the fact that for several weeks after the strikers left the company could not operate, $21,000; loss of seasonable merchandise, $4,125; loss of elastic webbing, $2,574.

The jury found that the union actually authorized the seizure and occupation of the company's plant by the sit-down strikers and that the union, after actual knowledge, ratified the seizure and occupation of the plant. After the trial Apex attorneys announced that they would not move to collect under the verdict until after the appeal had been decided by the Circuit Court of Appeals. It was testified that only eight of the 2,500 Apex employes were members of the union when the strike was called and that only about 100 had attended a meeting at which authority was given to call it. The company's suit for more than $1,000,000 against Philadelphia County for alleged failure to provide adequate police protection will be heard in Chester County courts on a date not yet set.

Oscar Nebel Reorganization Meets with Objections

A tentative plan for reorganization of Oscar Nebel Company, Inc., manufacturers of full-fashioned hosiery with headquarters at Hatboro, Pa., and plants also at Verona and Staunton, Va., was filed in the Federal District Court at Philadelphia by Harry E. Schoenhut, its president, and George McHugh, who had been previously appointed trustees of the debtor concern. A vital part of the plan contemplates the organization of a new corporation and the procurement of a loan from the Reconstruction Finance Corporation to liquidate the claims of general creditors, preferred creditors and administration expenses and furnish the new company with some working capital. A survey of the company's financial condition, the trustees reported, showed there is no equity in the assets for the hundred thousand shares of common stock, consequently these shareholders have no "interests" in the proposed reorganization.

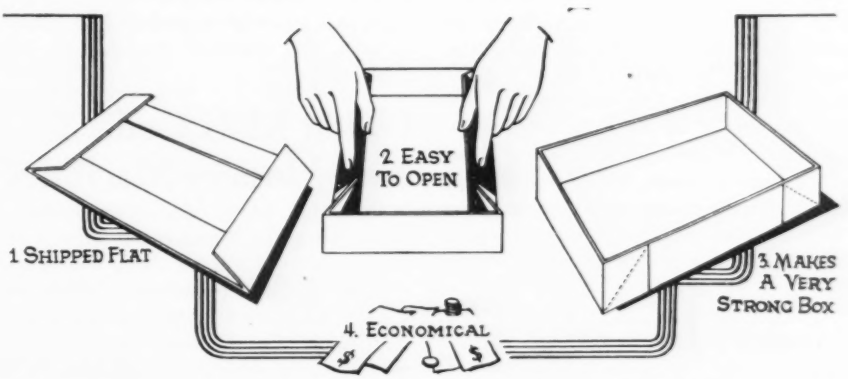
These plans were interrupted when charges were made in court by Mrs. Meta Nebel, chief common stockholder of the Oscar Nebel Company, in which Mrs. Nebel charged that the debtor concern is not insolvent and that its petition for reorganization was not filed in good faith. The court immediately instructed Referee John M. Hill to make an investigation of these charges and after they have been completed to report back to the court. The appointment of Harry Schoenhut and George McHugh as trustees was made permanent. The court instructed that McHugh is to have exclusive authority to decide all matters of policy and Schoenhut is to restrict himself to the technical end of the business. The main basis of Mrs. Nebel's complaint is that the company has been mismanaged and that its financial condition has been exaggerated so that through the reorganization proceedings common stock holders would be eliminated.

Nolde & Horst in Negotiations with Burlington Mills

J. Spencer Love, president of Burlington Mills Corp., said that negotiations between representatives of his firm and Nolde & Horst have been under way for sometime. On the basis of information obtained up to the present time it has been stated that arrangements call for a closely cooperative relationship under which the Nolde & Horst Sales Co. will function as sole representative of the full-fashioned hosiery mills of the Burlington group now in course of erection, in the same sense in which the Nolde & Horst Sales Co. functions as merchandiser and distributor for the Nolde & Horst Co. of Reading, Pa. The Burlington group is one of the largest in the industry so that this project is receiving much attention. The Burlington project is one of the most ambitious yet conceived by the southern hosiery industry. There will be at least six mills to be built under the program, some in Virginia and the others in North Carolina. Some of the plants are to be operated in cooperation with Thomas J. Wallner, president of the Wallner Silk Hosiery Mills, and Virginia Maid Hosiery Mills at Pulaski, Va.

Interstate Officers Denounced by S. E. C.

Although holding it was unnecessary further to suspend or withdraw the common stock registration of the Interstate Hosiery Mills, Inc., on the New York Curb Exchange, the Securities and Exchange Commission recently severely criticized the company's management for not properly recording its inflated financial statements for 1934, 1935 and 1936. Reinstatement of the company's stock was recommended after a lengthy investigation into Interstate's financial affairs. The conduct of the management indicated a complete abdication of responsibility the commission said, adding that accountants' certificates are required not as a substitute for management's accounting of its stewardship but as a check upon that accounting. Responsibility for the over-statements was accepted by an employee of Interstate accountants, Raymond Marien, who is now serving a term of two and a half to five years in prison on a forgery charge. The S. E. C. found no complicity with Marien by any of the officers, directors or employees of Interstate and it was also stated that accounting firm also could not be fairly charged with negligence. Trading in Interstate's common stock on the New York Curb Exchange was suspended on February 15, 1938.



The above illustration is a graphic description of the new Qik-Fold box, recently developed by the Old Dominion Box Company, Inc., Charlotte, N. C. It can be shipped flat and easily opened and assembled . .

Japanese Hosiery Imports Gain

Imports of cotton hosiery from Japan for the first two months of the present year amounted to 121,587 dozens which is more than double the arrivals of the same period last year, amounting to 53,400 dozens. These figures are taken from the Department of Commerce report and analyzed by the National Association of Hosiery Manufacturers. Some significance was attributed to this increase, especially in the imports of cotton hose from Japan in view of the expected increase by July 1 of minimum wages in domestic seamless mills. The higher minimum recommended by the hosiery committee of 32½ cents an hour for seamless mills is expected to effect more severely mills making such lines as 10-cent socks which is the type of merchandise offering the larger competitive chances for the Japanese-made merchandise.

British Reciprocal Treaty without Immediate Effect

After a study of the first two months of operation of the reciprocal treaty agreement between this country and the United Kingdom, the hosiery industry sees no material benefits in the way of larger exports to England. The same holds true for the agreement with Canada. The National Association of Hosiery Manufacturers has found that exports by domestic manufacturers of women's full-fashioned silk hosiery to the United Kingdom were 8,647 dozen pairs for January and February this year, the first two months under the operation of the agreement, while a year ago they were 8,118 dozens. For the first two months of 1937 the exports were 10,168 dozens. The tariff agreement lowered duty on silk hosiery from America to the United Kingdom and it was hoped that some material gain would be felt to make up for the lower rates granted on wool hosiery from England. The association can see no effects up to that time. The Canadian rates against hosiery from this country were also lowered but evidently not enough to make any material difference in the volume of trade of domestic manufacturers of that market.

Hosiery Industry Uses Three-fourths of Silk

In February raw silk consumption by the United States hosiery industry accounted for 73.4 per cent of the total deliveries to American mills. This percentage, while higher in than recent months, has been averaging lower than a year ago. For the first eight months of the current silk season consumption by the hosiery trade constituted 64.5 per cent of the total American mill deliveries in 1938-39 compared with 72 per cent in 1937-38. With silk reaching new high levels some in the hosiery trade feel that the percentage used by the hosiery industry will now remain around its present basis due to the switching of some woven fabrics into rayon.

Hose Workers, Mills Would Save Million by Revision of Tax

By the proposed revision of the Social Security Act as endorsed by the Secretary of the Treasury and seconded by President Roosevelt, the 140,000 hosiery workers and their industry will save approximately one million dollars next year, the National Association of Hosiery Manufacturers has estimated. The association said that the recommended changes in the act are highly desirable and it is hoped that this important move on the part of the Administration will be followed by other equally practical steps to improve business conditions.

Charge Sport Wear Plant Broke Pay Law

Federal Wage and Hour Administrator Elmer F. Andrews has filed charges in the United States District Court against Sport Wear Hosiery Mills, Inc., of violating the wage and hour law at its Etowah, Tenn., plant and asked the court for an injunction compelling the company to comply with the law particularly for the payment of the minimum hourly rate of 25 cents. The company manufactures cotton sport hose and besides the Etowah plant has mills in Philadelphia and at New Cumberland, Pa. No date has been set for a hearing.

Union Mills Order New Hosiery Machines

According to the American Federation of Hosiery Workers the effects of the union's efforts to bring new machinery into the organized sections of the full-fashioned hosiery industry are indicated in a recent announcement of new machine orders made by one company. More than half of a hundred machines ordered from this one company in recent weeks will go to union mills. The 24-machine order of the Gotham Silk Hosiery Co. was the largest listed while Nolde & Horst, Reading, have placed an order for 12 machines. Other union mills listed as ordering equipment of this one type included Largman, Gray & Co., Croydon, Pa.; Penrose Hosiery Mills, Philadelphia; Bethayres Knitting Mills, Bethayres, Pa.; and the Fox Chase Knitting Mills, Philadelphia. An order of 12 machines has been placed by the Van Raalte Co. but the statement did not indicate whether these would go into the mill at Boonton, N. J., or that in Athens, Tenn. All of the orders indicated have been for 28-section leggers and 30-section footers. The union believes along with manufacturers in Pennsylvania that due to new conditions in the state the exodus of manufacturers to the South has been brought under control and that manufacturers in Pennsylvania will be able to compete to better advantage than for many years with other sections of the country.

Hosiery Union Plans New York Convention

The 1939 convention of American Federation of Hosiery Workers will be held in New York September 18. New York won out as the convention city over Indianapolis when it was pointed out that the World's Fair would be under way there and this would bring a larger attendance. The executive board of the union also unanimously resolved to declare unalterable opposition to all current proposals to amend the National Labor Relations Act. Last year's convention was held in Charlotte.

Whitman New Head of Outerwear Group

Roger W. Whitman, American Hosiery Co., was elected president for the coming year of the National Knitted Outerwear Association. Mr. Whitman will also act as New England representative of the organization. New vice-president elected with the territories they represent were: Ben Schanzer of Henry Schanzer & Sons for the Eastern district; William Portner, Franklin Sweater Mills for Philadelphia; I. B. Davies, Bradley Knitting Co. for the Western section; Oscar Fishel, Standard Knitting Co. for Cleveland and E. W. Stewart, Pacific Knitting Mills, for the Coast.

Other officers chosen were Harold R. Lhowe, re-elected executive director, Adoloph J. Farber, treasurer, and Sidney S. Korzenik, executive secretary.

The new president said: "Our sweaters are in direct competition with English imports to a very large degree."

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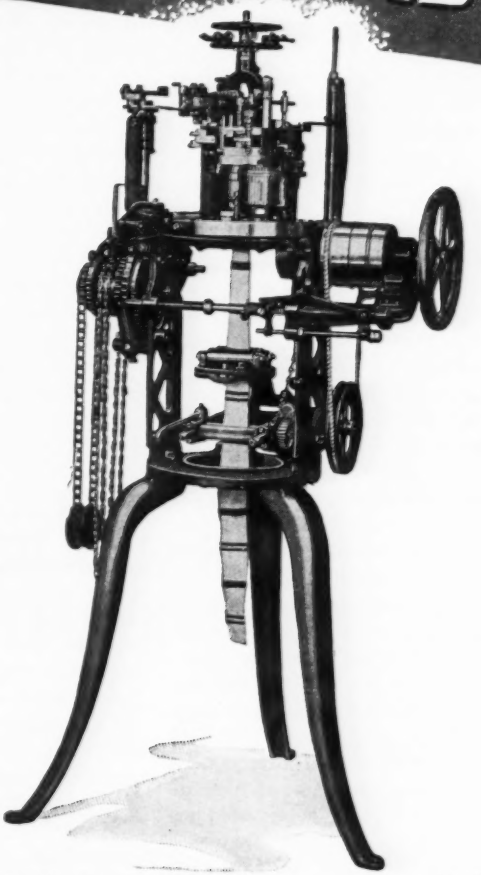

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Let the new, modern Brinton Ribbers carry the burden of your production problems. Modernize your old ribbers, by converting to the latest styles. . . . For dependable, economical production—rely on Brintons.

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He noticed he said that such imports were being landed here at a price which had lowered the level at which domestic products could be sold. The tariff was nevertheless lowered at the beginning of this year and during the first two months of the operation it was stated that imports valued at more than $5.00 a pound had increased so that the association reiterated its opposition to the present reciprocal trade treaty with Great Britain.

Durene Yarn Shipments Increase

The Durene Association of America through its president, Dean Hill, reports favorable progress of its knitted cotton underwear promotion campaign. There are more than twenty-two underwear manufacturers identifying their Durene garments with identification tickets and stickers. Mr. Hill indicated increased interest in the Durene identification plan on the part of retail stores. Discussing the 1939 prospects of the mercerizing industry, Mr. Hill reported that the first eight weeks of 1939 showed shipments of Durene yarn 36 per cent ahead of the same eight weeks of 1938. While admitting that shipments of mercerized yarn were at a low ebb in the first half of 1939 it was pointed out that shipments during the first eight weeks this year were 14 per cent ahead of the average of the previous three years for the same period. Claiming that this increase is due somewhat to the increased demand from underwear manufacturers due to the growing recognition of the double absorption and evaporation powers of Durene, Mr. Hill stated that a new use for this yarn is also accountable for part of the increase. Durene is now being used extensively in women's shoe factories. Increased use is noted in children's knitted sweaters and pull-overs.

High Court Backs Picket Injunction

A Common Pleas Court preliminary injunction prohibiting "unlawful picketing" at the Yale Knitting Mills, Inc., Philadelphia, was upheld by the State Supreme Court sitting at Pittsburgh, in a case followed closely by both labor and industry. The essential question was whether a union could picket a plant where there was no strike, solely for the purpose of organization. The injunction was directed against the Knit Goods Workers' Union, Local 190. Action of the high court was affirmation that the grounds upon which the lower court issued the injunction were reasonable.

Acquisition of Bare Rubber Patents

Scott & Williams, Inc., have acquired from Lawson Products, Inc., John Lawson and Robert H. Lawson, the exclusive rights to their inventions for fabrics and garments incorporating elastic threads and devices for supplying threads under a predetermined constant stretch.

The inventions assigned include the John Lawson fabric patent 2,009,361, two patent applications for supporting garments for which the fabric of patent 2,009,361 is particularly adapted, and two patent applications for thread supplying devices. These inventions make practicable for the first time the use of bare rubber threads in knitting. Exhaustive tests have proved the use of bare rubber—by means of these inventions — entirely satisfactory for foundation garments, swim suits, various types of outerwear, underwear, etc.

By means of Scott & Williams' recently developed yarn change attachment, bare rubber thread can be introduced and removed from the knitting wherever desired. Fabrics so knit—regardless of the amount of shaping employed—can be cut and sewed as readily as non-rubber fabric.

◆

Test Developed for Comparison of Full-Fashioned Knitting Needles

By making accelerated beard wear tests and brittleness tests, knitting needles may be compared for their service performance. The spring beard needles are tested by selecting 15 needles from each group to be compared and mounting the needles in a needle bar base. An eccentric shaft is rubbed against the beards of the needles, closing them completely every revolution, thus simulating closely the action of the needles in a knitting machine. The needles are examined and measured before mounting and are subsequently examined and measured after three test periods.

1st test period—1.5 million beard closings.

2nd test period—10 million beard closings.

3rd test period—18 million beard closings.

Results are given in percentage of needles showing wear.

Brittleness test is made on both beards and shafts. The brittleness of the beard is measured by determining the angle at which the beard breaks off when raised from the shaft. The brittleness of the shaft is determined by bending the shaft 90 degrees in a plane perpendicular to the plane of the beard and measuring the angle of permanent set in degrees.

From these tests, comparisons can be made as to expected service of full-fashioned knitting needles.—U. S. Testing Company, Inc.

◆

Knitting Exhibition to be Held in England

Announcement has been made by the "Textile Recorder" that an exhibition of hosiery and knitting machinery and accessories will be held at Granby Halls, Leicester, England, from October 11-21 of this year.

◆

Machine for "Banner-Elastic" Tops

Hemphill Company, Pawtucket, R. I., now has a new machine for making "Banner-Lastic", termed the No. 28EH, it is a 3½-inch 220-needle, 48-gauge, 8-step wrap stripe. The machine produces a top with two-way stretch, which grips the leg securely, and is said to stay up and cause no discomfort to the wearer. According to the manufacturer, previous troubles, such as not being able to stretch the top far enough and breaking the elastic yarn when the top is stretched over the instep, have all been eliminated. The stretch can be regulated as desired and regardless of the width to which the top is stretched, the base fabric will break before the elastic yarn.

◆

Grosse Joins Wallner Mills

William M. Grosse, for many years superintendent of the Greensboro (N. C.) Full-Fashioned Hosiery Mills, has resigned his position to become production manager of mills of the Wallner

Mr. Grosse

interests located at Marion, Va., and Chilhowie, Va. Mr. Grosse is a practical mill executive and has graduated in a course in industrial management from the LaSalle University. At the present he is taking an advanced course in bsiness management with the LaSalle University. He is succeeded at Greensboro by George Lynch, formerly supervisor of the knitting department of this plant.

Sleeping Beauty...

The beauty that lies dormant in all quality hosiery is brought to vibrant life by the magic of DuraBond Hosiery Finishes. Clear and gossamer sheer, soft to the look and touch . . . smoky dull . . . the life of the silk sealed in for miles more wear . . . hosiery DuraBond Finished has every appeal to make more sales, more rapidly—for you!

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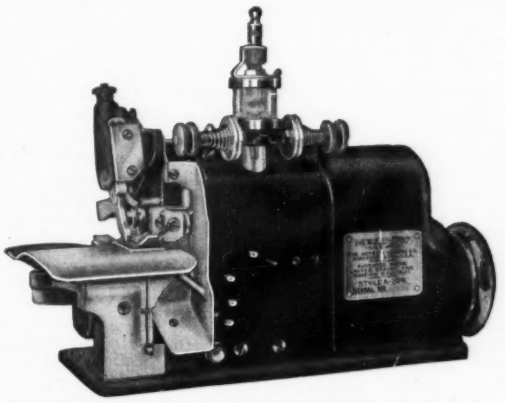

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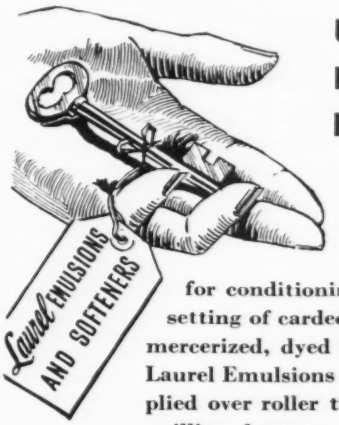

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Developed out of our 15 years' experience with spinners, converters, and knitters . . . for conditioning, softening and twist-setting of carded and combed grey yarns, mercerized, dyed and bleached yarns . . . Laurel Emulsions and Softeners, when applied over roller troughs on cone winders, quilling frames, or twisters, will produce even running yarns.

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TRENDS—THE YARN MARKETS

Silk at Nine-Year Peak—Cotton Yarns Firm in Face of Dullness —Lower Prices for Worsted Knitting Counts

Philadelphia, April 15, 1939

HOSIERY MANUFACTURERS that had been counting on an important recession in silk prices during the spring months have been disappointed. Prices of this commodity have after a short-lived slight easing snapped back and during the last week have reached a level higher than any time in nine years and forecasts are that knitters cannot hope for much silk greatly under this for some time ahead but at the same time there are reports that prices are also being bolstered by speculation. Cotton yarns are dull for new orders but prices are stiff spinners claiming that they are down to bed rock so far as further cuts are concerned. Worsted knitting yarn spinners cut prices 5 cents in some instances early this month when they reduced 2-20s, 50s from $1.02½ to 97½ cents but this did not stimulate new orders of importance. Rayon yarns have been shipped at a rate somewhat above the rate during this time a year ago but new business has been slow. Prices of rayon yarns are unchanged.

Cotton Yarns

The war scare has had a drastic effect upon new business in cotton sales yarns but in the combed and mercerized sections shipments have been maintained at approximately the peak levels of the present year. The outstanding characteristic of the market over the last month has been the stability of prices in the face of serious handicaps to trading. The foremost of these has been the threat of a general war abroad which has had a similar effect in the sales of cotton yarn market to that of other lines of business. The effect has been to diminish the volume of new business and during the last two weeks an added drawback in the market has been the drop in shipments on old contracts which previously had been an outstanding feature of the market.

Carded shipments on old contracts have recently declined to such an extent that there is now a general talk of closing down by certain spinners until demand improves and in other instances spinners have put into effect sharp curtailment programs both of which are aimed to guard against a repetition of the unfavorable sellers' market that existed in 1937. Yarn prices have held so steady in the face of foreign and domestic handicaps for two main reasons. The first of these is that prices had reached a low level which spinners have been claiming represented cost or even less so that no further shading of prices can be expected. The second reason for steadiness in prices is the threat of a drastic upturn in overhead costs through the imposition of higher wage minima. The committee representing the textile industry has recently recommended that the minimum wage level should be 32½ cents which if adopted by the Administrator would mean a sharp increase in overhead for a large majority of the carded yarn industry. It is believed such a wage minimum would not result in any great increase in costs for combed spinners most of which are paying around 33 cents an hour.

Knitters are still showing a decided preference for combed in place of carded yarns which has been reflected in very large shipments of combed peeler over recent months. These reached a peak in February which was maintained in March but has dropped off some during the present month. Shipments of mercerized have been at a peak level for the first quarter of 1939, topping those of any previous year for at least three and the war scare which has had a detrimental effect on other yarns has been without effect in the mercerized end. Shipments have been maintained but new business has declined. Prices of mercerized have not been changed and knitters claim as was true a month ago that in cases where sizable amounts are involved several cents under the list can be done.

Silk

As was true last month the feature of the commodity markets during April has been in silk where a new top has been reached, exceeding any for at least nine years. At the present time raw silk is quoted from $2.48 to $2.53 compared with the former peak of this year reached March 2 when it was priced at $2.36. The low of the present year was reached early in January, the price on January 6 being $1.82, so that this commodity has advanced this year about 70 cents or it has advanced $1.00 a pound over the last year. Although there has been a great deal of speculation in raw silk as has been evident from the rather sharp fluctuations from day to day the upturn in prices reflects the strong statistical position of this commodity together with the higher than expected consumption by the United States. Warehouse stocks in New York were reported at only 23,100 bales as of April 1, which is the lowest total held in that city since 1934.

Another bullish development during the last month was the raw silk takings by American mills during March. The mill takings that month exceeded trade expectations from 3,000 to 5,000 bales with a total of 37,863. During March hosiery mills continued to take deliveries in a fairly heavy manner with other consumers of silk such as ribbon mills also taking in large quantities. Tie silk manufacturers in the Paterson, N. J., section also took silk in heavy volume. There is evidence at hand now that American consumption will taper off because the seasonal peak in the hosiery trade has been passed while in woven goods many manufacturers have determined to use rayon instead of silk as a means of keeping their product in the former retail price bracket. American consumers have determined to buy silk in a strict hand-to-mouth manner until a sizable reduction in prices takes place.

Rayon

The rayon yarn market is experiencing a regular spring lull with a diminished demand for most numbers and with shipments substantially lower than last month. The situation although probably aggravated by war threats is in line with the regular seasonal drop experienced at this time almost every year. Most producers report that shipments are currently substantially better than they were at this time a year ago. Statistics for the industry show there is no burdensome inventory but many in the market expect that stocks will show some increase about June 15. At the same time there is talk among producers that they will begin shortly to curtail and prevent this. Deliveries of rayon filament yarn during March totaled 26,500,000 pounds as compared with 25,600,000 pounds in February, both comparing with deliveries totaling 18,300,000 during March, 1938. Stocks of such yarns held by producers at the end of March totaled 41,400,000 pounds compared with 64,400,000 a year previous. These March shipments reflected an active market during the first two weeks of the month and a slower activity during the last half.

The high price of silk has had some bearing on the volume of rayon deliveries in recent months but it should be pointed out in this connection that although there has been a wide switch from silk to rayon both for dress and underwear fabrics the actual poundage contribution of this new business is not as large as might be expected. There has been no change in rayon yarn prices this month and the trade is not expecting one in the near future.

Worsted Yarns

Worsted knitted yarn prices have been easy this month. Several large producers of two-ply knitting yarn have reduced prices five cents, making the reduction so far this year 7½ cents. Such spinners are now quoting 2-20s, 50s, at 97½ cents compared with $1.02½ a month ago. Prices of single dyed yarns have not changed but are barely steady. Outerwear manufacturers have finished a fair spring season and are now experiencing a lull before they become active on fall goods, an exception to this being continued activity among manufacturers of bathing suits. They are buying little new yarn and taking little on old contracts so that most sales yarn spinners are operating at low rates.

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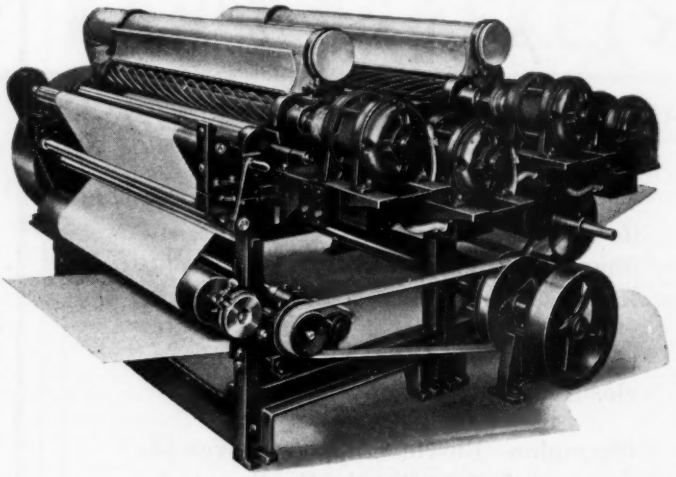

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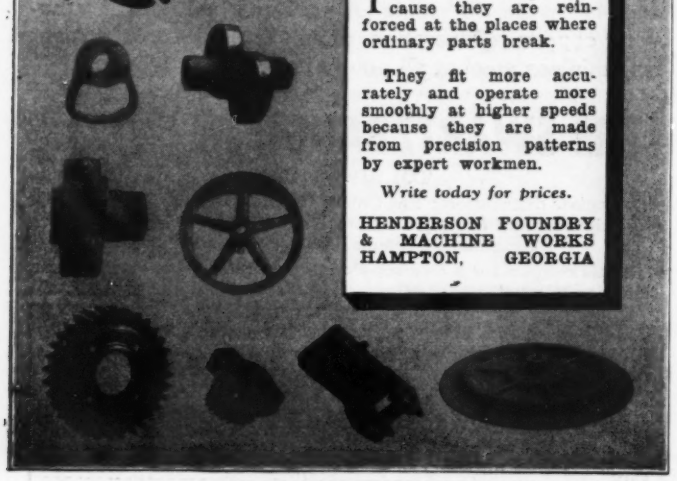

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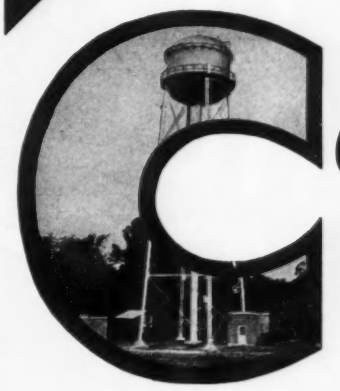

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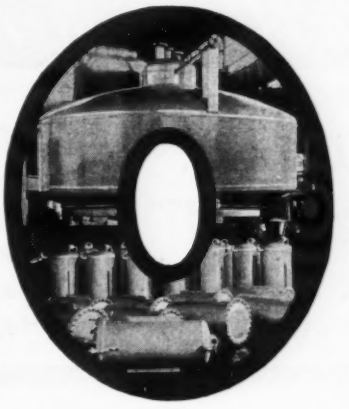

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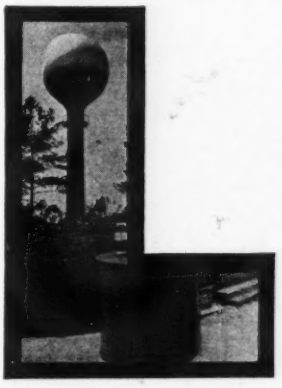

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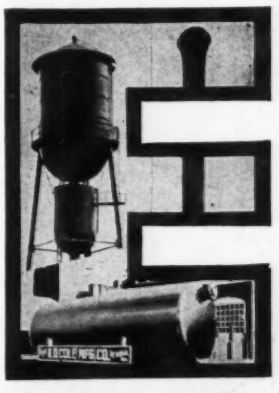

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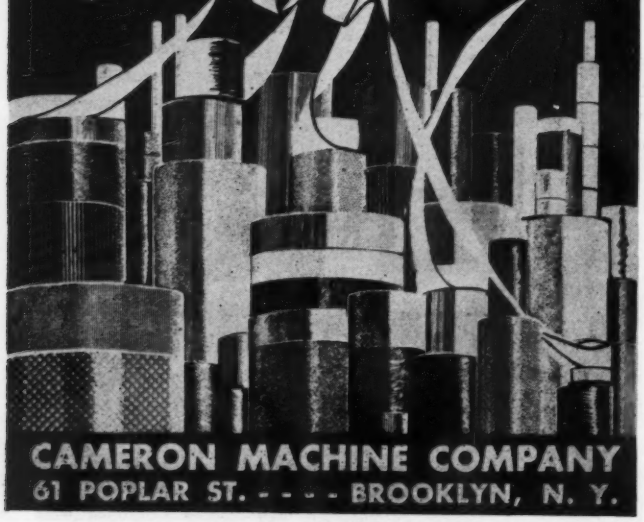

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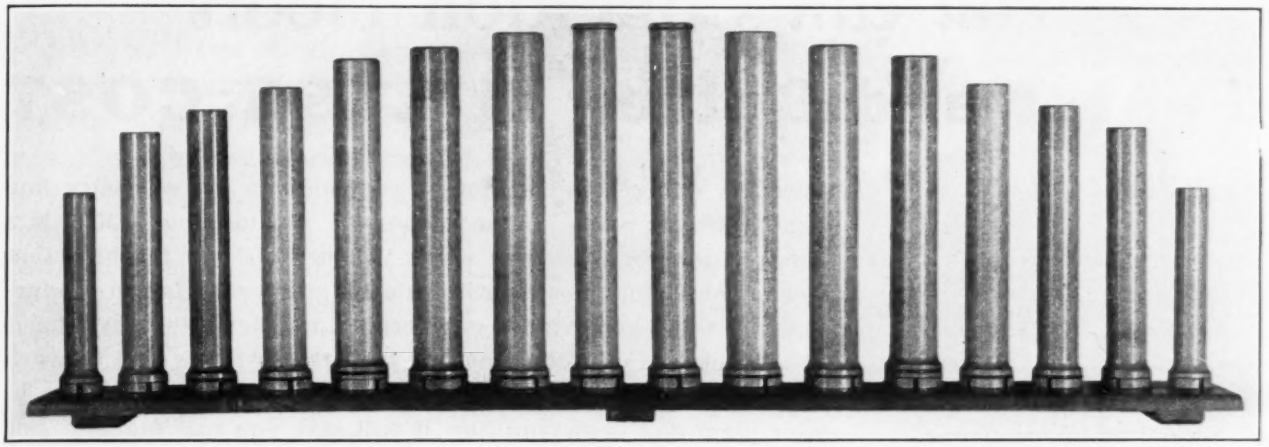

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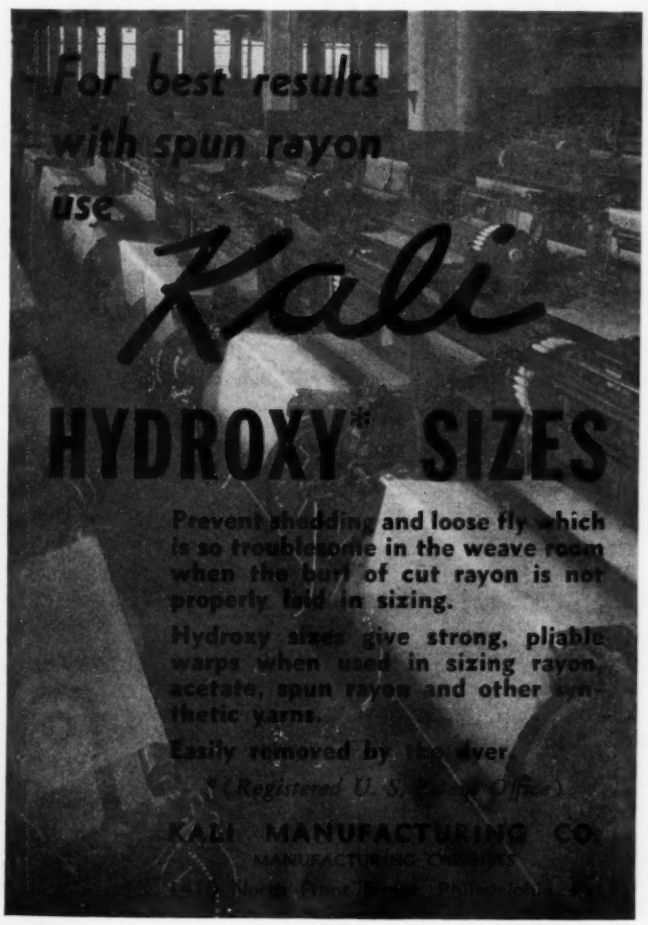
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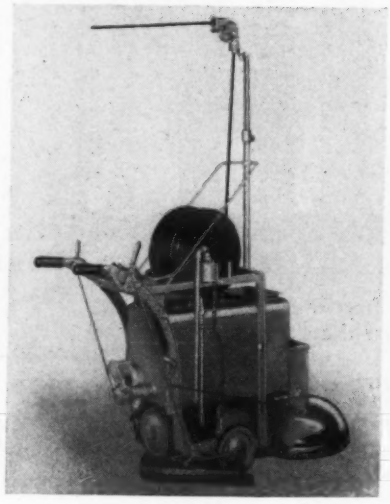

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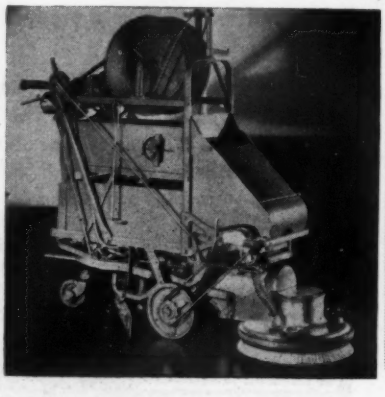

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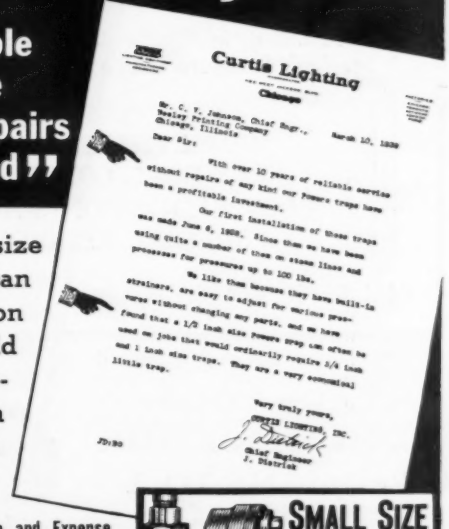
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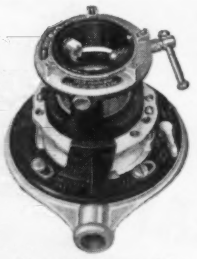

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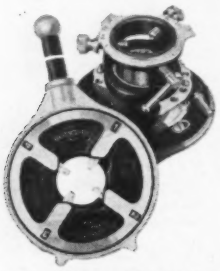

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Potassium Carbonate—Potassium Carbonate Liquor — Modified Sodas — Liquid Chlorine — Ammonium Chloride — Calcium Chloride — Causticized Ash — Caustic Potash — Sodium Nitrite —Soda Ash — Para-Dichlorobenzene—Salt—Ortho-Dichlorobenzene.

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Ideal Mfg. & Sales Corp., Memphis, Tenn.
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Lenfestey Supply Co., Tampa, Fla.
Miller Machinery & Supply Co., Jacksonville, Miami, Fla.
Hercules Powder Company, Paper Makers Chemical Div., Atlanta, Ga.
Wittichen Transfer & Warehouse Co., Birmingham, Ala.
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Waterproof With

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Cottonseed Oil Gum Waterproofers
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Paint and Protect With

SCO-CO Industrial Finishes
Village and Factory Paints

They Last Longer

Quotations, Recommendations, Estimates, Gladly Furnished without obligation.

Southport Paint Co., Inc.

Division of Wesson Oil & Snowdrift Sales Co., Inc., Savannah, Georgia

TAKE YOUR HUMIDIFICATION PROBLEMS TO A

Humidification Specialist

Years of experience in process studies of cotton, woolen, worsted and rayon manufacture have provided the right Amco equipment for every job, and the specialized knowledge that makes for its efficient installation and operation.

AMERICAN MOISTENING COMPANY
Providence, R. I.
BOSTON . . . ATLANTA . . . CHARLOTTE

Arguto NON-METALLIC

20 years without a drink—

"First bought 'Arguto' bearings 25 years ago . . . still buy them because they're alright."
—unsolicited testimonial

ARGUTO OILLESS BEARING CO.
Wayne Junction, Philadelphia, Pa.

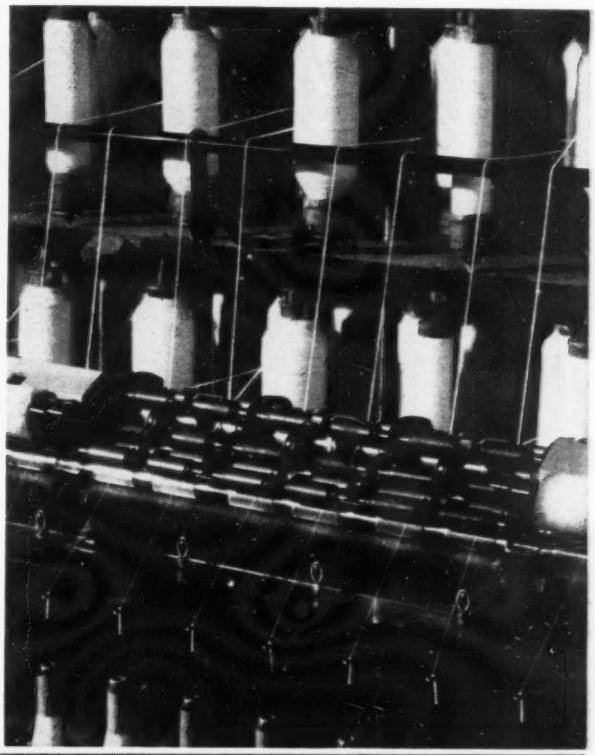
ROLLER CLOTHS

for

Quality Yarns

at Lowered Costs

These well-felted, long-wearing fabrics, in combination with high-grade roller leathers, assure yarns of consistently high strength and uniformity. A trial of ALBANY Roller Cloths will prove their value to you.



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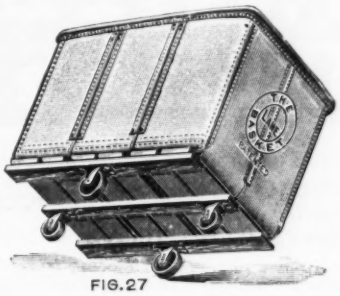


FIG. 27

LANE TRUCKS

For Speeder
Slubber-doff
General Utility **Use.**

Sturdy • Smooth • Light

Write for Catalog No. 126-C

W. T. LANE & BROS., Inc.

Manufacturers Poughkeepsie, N. Y.

ECONOMIZE WITH POWERS
THERMOMETER-REGULATORS
Controls Heating or Cooling Mediums
SELF OPERATING TYPE
TWO INSTRUMENTS IN ONE—Combining a temperature regulator with an indicating thermometer gives a visual check on the performance of the regulator and makes it easy to adjust it for the required operating temperature.
EASY TO INSTALL—Both thermometer and regulator operate from the same thermal system.
AIR OPERATED REGULATORS WITH THERMOMETERS—Our complete line of compressed air operated regulators combined with indicating and recording thermometers are described in Bulletin 226.
THE POWERS REGULATOR CO., 1032 Jefferson Standard Bldg., GREENSBORO, N. C.—Offices in 47 Cities. See your phone book.
45 Years
POWERS
of Automatic Temperature and Humidity Control

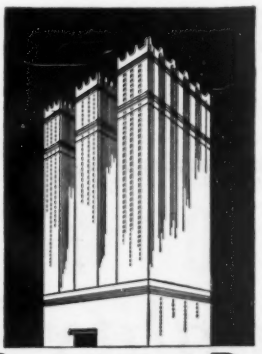
When You Are In Atlanta

You will be comfortable in the quiet, dignified atmosphere which is the Biltmore. Situated as it is, just outside the city's center of noise, it provides thoughtful accommodations for those who appreciate the best.

600 outside rooms, each with bath . . . convenient parking and garage accommodations . . . popular prices throughout.

Rates From $3

ATLANTA BILTMORE



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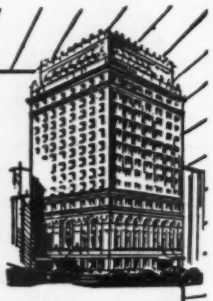
The VANDERBILT HOTEL

PARK AVENUE at 34th ST., NEW YORK



Smartness

without extravagance at one of the Nation's Leading Hotels

Universally accepted for its comfort, service and prestige, it is in the very heart of the shopping, business and theatrical section and in easy access of all railway stations.

Single Room & Bath $3.50 up. Double Room & Bath $6. up.

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PHILADELPHIA, PA.

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. . give *good* service as a matter of course; they are popular because of their *friendly* service, which combine to make *better* service . . .

You will enjoy living in Dinkler operated hotels

★ The ANSLEY ATLANTA
★ The O. HENRY GREENSBORO
★ The SAVANNAH SAVANNAH
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**Air conditioned bed rooms!*

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NASHVILLE * The ANDREW JACKSON ★

**Air conditioned bed rooms!*

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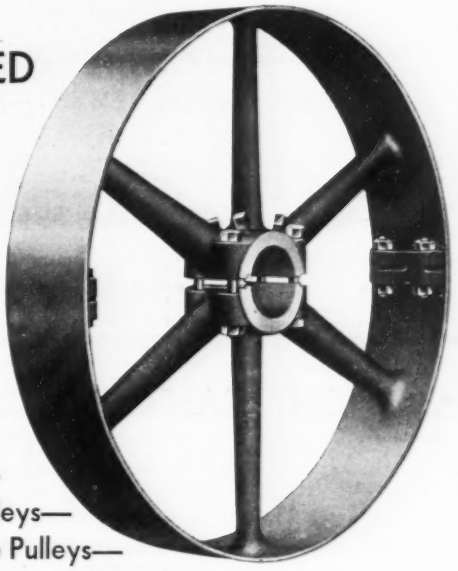
OPERATING 3000 ROOMS IN SOUTHERN HOTELS

CAST IRON PULLEYS

MACHINE MOLDED

Well Proportioned
Accurately Turned
Nicely Balanced



Standard Single
or Double Belt,
Solid or Split Pulleys—
Tight and Loose Pulleys—
Clamp Hub Pulleys—Flange Pulleys—
Conveyor Pulleys—Ball Bearing Loose Pulleys—
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"We have furnished more Complete and Partial Pulley and Shafting Equipment to Cotton Mills than any other manufacturer in the United States"

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Manufacturing Chemists
Established Jan. 1, 1895

Works and Office, Atlantic, Mass.

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Sulphonated-Saponified

Soluble Oils **Para Soap Oil**
Turkey Red Oil **Castor Soap Oil**
Soluble Pine Oil **B & L Bleaching Oil**

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BINDOL - ALPHASOL

Bleach Softener CSO,
Finishing Sizings and Softeners

VICTROLYN,

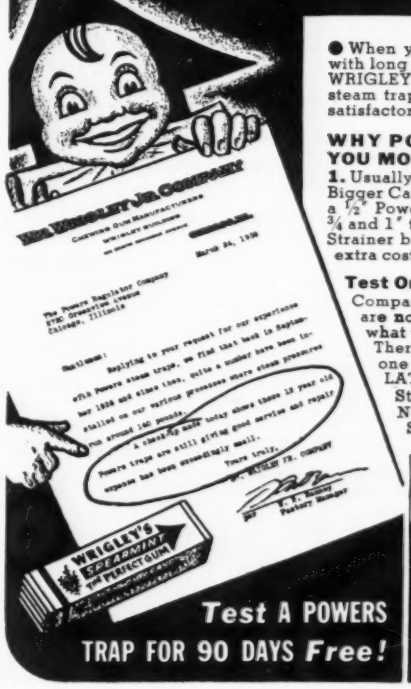
the economical assistant in warp sizing. Penetrating, Lubricating and Wholly Efficient.

B & L BLEACHERS' BLUINGS AND VIOLET TINTS

GOOD MONEY VALUES--FREEDOM FROM WORRY

Southern Representative:
J. Frank Richardson, Jr., Tryon, N. C.

12 year old POWERS Traps are still giving good service!



● When you think of chewing gum with long lasting flavor you think of WRIGLEY'S — and when you want steam traps that give long years of satisfactory service think of Powers.

WHY POWERS TRAPS GIVE YOU MORE FOR YOUR MONEY

1. Usually outlasts other traps . . . **2.** Bigger Capacity — you can often use a ½" Powers trap in place of many ¾ and 1" traps of other makes . . . **3.** Strainer built right in the trap at no extra cost.

Test One FREE for 90 Days— Compare it with the best trap you are now using. If it doesn't do what we claim simply return it. There's no obligation. Order one now. THE POWERS REGULATOR CO., 1032 Jefferson Standard Bldg., Greensboro, N. C. Offices in 47 Cities. See your phone book.

Test A POWERS TRAP FOR 90 DAYS *Free!*

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BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

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Rates are net, payable in advance each month. No commission or discounts. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches. Rates based on the total space used in one year.

	Per Inch		Per Inch
1 inch	$5.00	13 inches	$4.20
3 inches	4.80	20 inches	4.00
6 inches	4.60	50 inches	3.80
10 inches	4.40	100 inches	3.00

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Advertisements set "want ad style." Positions wanted .05 word per insertion. Minimum charge $1.00 per insertion. Cash with order. All other classifications .10 word per insertion. Minimum charge $2.00 per insertion. Advertisements of equipment, for sale, for rent or wanted and professional cards are accepted at display rate only.

Box number address care of COTTON, Grant Bldg., Atlanta, Ga., count as eight words.

POSITION WANTED

Cotton buyer or receiver for cotton mill. Have had 20 years experience, am thoroughly familiar with buying in Western markets, especially Memphis territory. Best of references. Address Box No. 471, care COTTON, Grant Bldg., Atlanta, Ga.

SALARIED POSITIONS

Foremen . . . Managers . . . Superintendents

Our system of searching out higher-bracket salaried positions, hiding your identity, increases your salary commensurate with training and experience. For valuable information, address Textile Dept.,

EXECUTIVE'S PROMOTION SERVICE,
300 B St., S.E., Washington, D. C.

Paul B. Eaton

PATENT ATTORNEY

1408 Johnston Bldg., Charlotte, N. C.
514 Munsey Bldg., Washington, D. C.
Former Member Examining Corps
U. S. Patent Office

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Married, 36 years of age Experience: 18 years in cloth room, 6 years overseer, handling all kinds of cotton and rayon goods, also 2 years overseer of grey room in finishing plant. Address Box No. 472, care COTTON, Grant Bldg., Atlanta, Ga.

WANTED

Mill hotel or boarding house. Have years of experience in this line. Will consider furnished or unfurnished place. At present place ten years. Reason for change—mill closed indefinitely. Can supply references. Address Box 470, care COTTON, Grant Bldg., Atlanta, Ga.

NARROW FABRIC SPECIALIST

POSITION WANTED

as manager or superintendent. Successful record production and quality. Thorough, practical technical knowledge yarn to finished goods, narrow non-elastic and elastic, wide elastic looms, braiding. Address Box 469 care COTTON, Grant Bldg., Atlanta, Ga.

EQUIPMENT WANTED

Reliable parties in North Carolina can use 25 to 30 H-H or B-5 knitting machines. Rent or lease for one year or more. State needles and size of machines. Address Box No. 473, care COTTON, Grant Bldg., Atlanta, Ga.

POSITION WANTED

As overseer of carding or carding and spinning. 20 years experience. Familiar with most all kinds of numbers. Can furnish best of references. 48 years of age, married and have family. Address Box No. 457, c/o COTTON, Grant Bldg., Atlanta, Ga.

POSITION WANTED

Experienced industrial accountant, employed at present, wants position with textile firm. Young, single, college graduate, good references. Will go anywhere. Address R. P. S., c/o COTTON, Grant Building, Atlanta, Ga.

— — — — — CUT HERE — — — — —

NOTICE! Cotton Classers, Textile Foremen, Designers, Office Workers, Recreation Leaders, Administrators and Teachers of Public and Evening Schools in Textile Communities!

Have *you* mastered *your job?*

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May be able to help you help yourself!

Specialists teach the following:

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- ☐ Designing* ☐ Loomfixing*
- ☐ General Textiles*
- ☐ Industrial Management*
- ☐ Principles of Economics*
- ☐ Educational Psychology*
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- ☐ Auto Mechanics* ☐ Business Law*
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- ☐ Community Recreation Leadership*
- ☐ Vocational and Educational Guidance*
- ☐ Philosophy of Vocational Education**

*June 12 to July 22; **June 12-30. Many other courses for various groups.

I am interested in courses marked [X]. Please send catalog or full information.

Name .....

Address .....

Occupation .....

Mail to: W. H. WASHINGTON, Dean, Clemson College Summer School, Clemson, S. C.

CUT ALONG THIS LINE

POSITION WANTED

Full Fashioned Knitter, 10 years experience, desires position as fixer or fixer's assistant. Mechanically inclined, good education, married, A-1 references, go anywhere. Address Box 474, care COTTON, Grant Bldg., Atlanta, Ga.

FOR SALE

Factory building located in a north central North Carolina community. 12,000 square feet floor space. Suitable for the manufacture of Hosiery, Cotton Yarn, etc. Separate office. Property surrounded by fine lawns and shrubbery. Address Box 475, care COTTON, Grant Bldg., Atlanta, Ga.

Your Advertisement on This Page

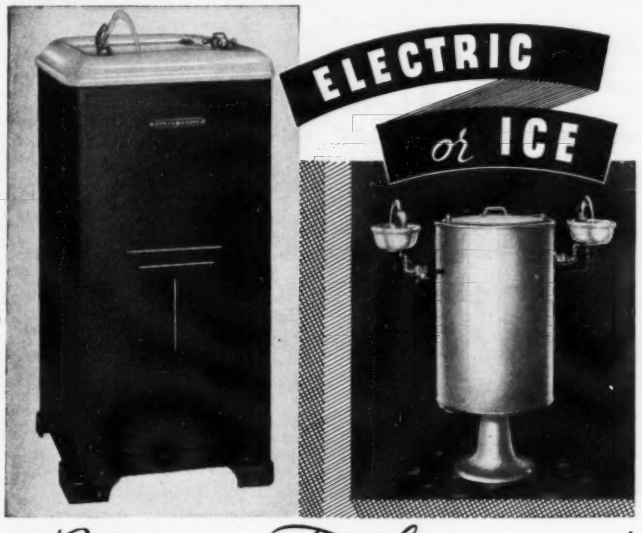
will produce results at small cost. Do you desire a position? Do you desire a good man to fill a vacancy in your mill? Do you desire your business or professional card placed before the textile industries?

Why not try an advertisement on this page of COTTON? Its 11,750 copies per month reach the textile executives, superintendents and heads of departments throughout the industry.

Note the rates above and send in your advertisement today.

COTTON

Grant Bldg. ATLANTA, GA.



Both are Taylor-made!

You know Halsey Taylor Coolers will be free from servicing annoyances because they are made by a house that devotes its entire resources to this one type of product. You know they'll be health-safe, because they're the only coolers with patented hygienic features such as practical automatic stream control and two-stream projector. Play safe—buy coolers that are TAYLOR-made!

In Ice or Electric Models to Suit any Requirement

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C-2

Halsey Taylor
COOLER FOUNTAINS

DOUGLAS

Filament Rayon Gum
Spun Rayon Gums
Textile Starches
Dextrines

PENFORD

Textile Corn Syrup
Unmixed
Chipped Sugar Textile
Grade

Manufactured by

PENICK & FORD, LTD; INC.

NEW YORK, N. Y. CEDAR RAPIDS, IOWA

"We're glad to see our mill dark after the second shift!"

Concentrating production into two shifts is an economy entirely possible where equipment is maintained at high efficiency. If your rings have gotten worn and wavy, you can definitely increase production in your spinning and twisting departments. Install high-polish DIAMOND FINISH spinning rings, and our patented lubricated twister rings — for concentrated production!

WHITINSVILLE (MASS.) SPINNING RING CO.

DIAMOND FINISH

Makers of Spinning and Twister Rings since 1873

Southern Representative: H. ROSS BROCK, Lafayette, Georgia
Mid-West Representative: ALBERT R. BREEN, 80 E. Jackson Blvd., Chicago

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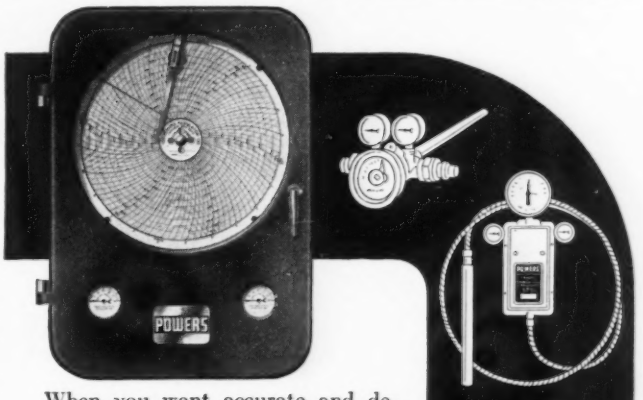

When you want accurate and dependable automatic temperature or humidity control for Air Conditioning systems or Industrial Processes call in a Powers engineer. With a very complete line of self-operating and compressed air operated controls we are well equipped to fill your requirements.

THE POWERS REGULATOR CO., 1032 Jefferson Standard Bldg., Greensboro, N. C. *Offices in 47 Cities*

48 Years of Temperature and ★ Humidity Control ★

POWERS

★ TEMPERATURE AND HUMIDITY CONTROL ★

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Experience of many engineers in many plants show that when Morse Silent Chain drives are installed, production is stepped up by the smooth, dependable flow of power . . . Yet Morse Silent Chain drives actually cost no more than less satisfactory types of drives!

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- ★ LONG LIFE
- ★ COMPACTNESS
- ★ RUGGEDNESS
- ★ FLEXIBILITY
- ★ NO SLIPPING—"TEETH, NOT TENSION"
- ★ CAPACITY TO TAKE SEVERE OVERLOADS
- ★ HIGH EFFICIENCIES—UP TO 99.4% THROUGH WHOLE LIFE OF DRIVE
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